Lectures
ON
CONTRACTIONS OF THE FINGERS AND TOES; THEIR VARIETIES, PATHOLOGY, AND TREATMENT.

Delivered in the Theatre of the Royal College of Surgeons,

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LECTURE III.—(*Concluded.*)

HALLUX FLEXUS.

Hallux flexus appears to have been first recognised as a separate affection only four years ago, and it is to Mr. Davies-Colley that we are indebted for the name and for the earliest discussion of the characters and causation of the disease. It is stated, however, by Blum that Nélaton described a "cou de cygne" of the great toe, and attributed it to the use of short boots. I have been unable to discover the reference in his works, but if the citation can be verified, the credit of recognising the existence and nature of the deformity will fall to this surgeon, for there is no doubt that hallux flexus is pathologically a "cou de cygne" or hammer toe. Since Mr. Davies-Colley's introduction of the subject various contributions have been made, by Mr. Howard Marsh, Mr. Reginald Lucy, Mr. Cotterell, Mr. Ellis, and others, and I must draw especial attention to a valuable analysis of thirteen cases by my colleague, Mr. Makins, in the St. Thomas's Hospital Reports for 1888. The complaint is by no means a rare one, for since 1887, when I began to take notes of all the cases that were brought under my observation in private and hospital practice, I have accumulated a list of twenty-eight examples of what may be termed true "hallux flexus," besides a number of contractions presenting a superficial resemblance to it, but resulting from arthritic lesions. I propose, as in the case of hammer toe, to separate these latter entirely from the former, because the pathological, and even the clinical, distinctions between the two classes are perfectly well marked, and it hence can only mislead to place them in the same category.

Hallux flexus may be defined as a progressive diminution of the normal range of extension at the metatarso-phalangeal, or, more rarely, at the inter-phalangeal joint of the great toe. It is unassociated with any disease of the bones, cartilages, or synovial membrane of the articulation, and originates only during the period of active growth. It is, in fact, a "hammer great toe," and it will be found strictly analogous to the disease just described, occurring under the same conditions and affecting the corresponding articulations.[1] The name proposed by Mr. Davies-Colley has been objected to on more grounds than one. In the first place, there is perhaps a lack of soundness in the pedigree of the word "hallux." It is a purely modern addition to anatomical nomenclature, and its sanction in classical literature is, to say the least, rather doubtful. In Plautus there is an expression "hallex viri," implying a little man, a "thumbling," and the words "hallex," "allex," and "hallux" have been used by other writers with a somewhat questionable signification for the great toe. A purist might indeed be justified in opposing the adoption of either "hallex" or "hallux," and especially the latter; but the convenience attached to a distinctive name for the great toe in place of that of "pollex," which is applied also to the thumb, is so great that we are not tempted to be hypercritical on philological grounds. A more serious objection has been raised against the adjective "flexus," because in the majority of cases the toe is not actually in the position of flexion; but the term "flexion" may be applied in the sense of movement as well as in that of position; and although the great toe in hallux flexus may not reach the *position* of flexion, it has passed through the *motion* of flexion before it has attained the line of direction in which it is found in the disease.

Symptoms.—In a typical case of hallux flexus the patient, usually a boy near the age of puberty, suffers some little pain about the metatarso-phalangeal articulation of the great toe in walking, at the moment when the weight of the body falls chiefly upon this joint. Rest affords complete relief, and the structures about the articulation show no signs of inflammation. As time goes on the pain increases and becomes associated with a sense of rigidity of the toe, and the power of full extension becomes lost. The diminution of the range of movement is very gradual, and usually it is not until the proximal phalanx can no longer be extended beyond a line corresponding to the prolonged axis of the metatarsal bone that the condition is brought before the surgeon. In more extreme examples the toe becomes actually bent below this axis, so that it forms with the metatarsal bone an obtuse angle with plantar opening. The foot is now seriously crippled. Overuse in walking induces much suffering, and any attempt at passive extension is extremely painful, while flexion remains unimpaired. The head of the metatarsal bone thrown into prominence by the unwonted position of the proximal phalanx looks abnormally large. In some cases a reflex hyperæmia of the tissues surrounding the joint may be induced by forced exercise; but there is rarely, if ever, any effusion within the capsule. The patient finds walking more and more difficult, and to avoid pressure upon the contracted articulation limps on the outer edge of the foot; but this gives little relief, and at last he is compelled to rest. In the more severe cases the patient consults the surgeon; in the slighter forms he puts up with the inconvenience, and we may assume that he recovers without professional assistance, for the condition is very seldom found after the attainment of full adult life.

An analysis of my series of twenty-six cases shows that the deformity is much more frequent in boys, the number including only three girls. (In the series of thirteen cases recorded by Mr. Makins the proportion of males to females was eleven to two.) It was bilateral in one case only, right-sided in seventeen cases, left in eight, and affected the metatarso-phalangeal articulation in every instance except one—that of a woman, in whom the distal joint was involved. In only three cases did the flexion pass the prolonged axis of the metatarsal bone, the angle reached in the worst example being 150°; in the rest the toe during full extension was either in a line with the metatarsal bone, or formed with the latter a very obtuse angle, 170° to 160°, with the opening towards the dorsal aspect. The ages at which the symptoms were first noticed ranged from twelve to eighteen, in the greater number lying between fourteen and sixteen. The associated deformities were: excessive length of toe in two cases, this amounting to a distinct giant growth in one, hammer toe (second) in one, hallux valgus (slight) in three, flat-foot in four, and slight varus in one. In fifteen cases the feet were perfectly normal in shape. The duration of the disease before the patient came under treatment varied from three months to four years. Occupation appeared to exercise little influence; the subjects were mostly schoolboys, labourers, and errand boys, but there did not appear to have been any unusual strain upon the powers of endurance, except in two instances. In two cases the condition was attributed to the use of short boots, but in the others no complaint was made as to the foot covering, and the boots in wear at the time of attendance were as unobjectionable as the materials and plan of the modern boot will allow. Constitutionally, the patients were, for the most part, a little below the average in physique; one (a girl) was tubercular, one was a child of rheumatic parents, but none had suffered from rheumatism. The result of inquiries with respect to inherited tendencies was less striking than in the case of hammer toe. In one instance the father had had double hammer toe, in another a brother had suffered from hallux flexus at the age of sixteen, and became cured without medical intervention in the course of three years; but in the majority no satisfactory information on the point could be obtained.

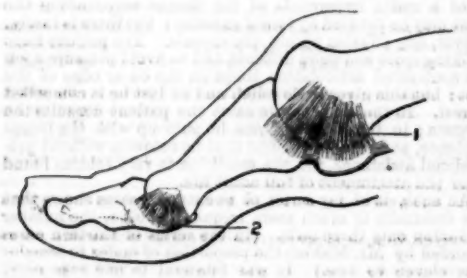
Progress.—There can be little doubt that the natural tendency of the complaint is to subside under the mechanical influence of ordinary exercise, and hence, although the deformity is fairly common in youth, it is rarely found in fully developed adults. The only exception to this rule was the case in which the distal joint was affected; here the contraction began about puberty, and

[1] It must be recollected that morphologically the metatarso-phalangeal joint of the great toe corresponds to the first inter-phalangeal joint of the smaller digits.

was still present at the age of fifty-two, but the defect never interfered materially with locomotion. It is possible that some of the cases terminate, as suggested by Mr. Davies-Colley, by conversion into hallux flexus, but my inquiries have failed to confirm this.

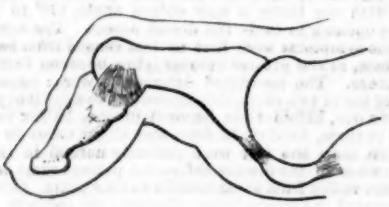
Pathology.—The origin of the condition may be explained in the same manner as that of hammer finger and hammer toe. There is a physiological variation in the range of movement permitted in the articulations of the great toe milar to that demonstrated in the fingers and lesser toes, and in examining a number of healthy feet it will be found that the position of extreme super-extension at the metatarso-phalangeal joint may lie at any point between 30° and 110° beyond the prolonged axis of the metatarsal bone; but if the movement of extension be checked at less than 30°, the symptoms of hallux flexus supervene. The chief distinctive feature in the anatomy of the joint lies in the substitution of two sesamoid bones, with their tendons and connecting tissue, for the glenoid plate developed in all the other articulations, and it is those structures that receive the distal attachment of the plantar fibres of the lateral ligaments. (Figs. 9 and 10.) The function of the

FIG. 9.



Bones and ligaments in hallux flexus. 1, Lateral ligament of metatarso-phalangeal joint; inferior fibres attached to sesamoid bone. 2, Lateral ligament of inter-phalangeal joint; inferior fibres blending with glenoid plate.

FIG. 10.



Hallux flexus of the distal joint.

lateral ligaments, however, remains the same as in the other toes, and the range of the movement of extension is governed by the development of their plantar fibres. The opportunities of examining the morbid anatomy of the complaint are necessarily very few. Mr. Davies-Colley's specimen, which he has kindly allowed me to examine, proves that the structures restraining the movement of extension correspond to those concerned in the production of hammer toe, those fibres of the lateral ligaments which blend with the osseo-tendinous structures replacing the glenoid plate; and the cause of the deformity in both cases appears to be an irregularity of nutrition by which the ligamentous fibres undergo imperfect longitudinal development, and consequently induce premature arrest of the movement of extension. This developmental defect is probably unconnected with any special error in the form of the shoe. Like hammer toe, the deformity occurs at the age most prone to nutritive disturbance; but, unlike it, tends to undergo cure without the help of the surgeon, because the weight of the body serves as an extending force, which sooner or later proves stronger than the resistance opposed; while in hammer toe the lesser digit is not essential to locomotion, and its retraction at the metatarso-phalangeal joint frees the inter-phalangeal joint from all necessity for action, and favours the permanency of the vicious position.

Treatment.—Bearing in mind the fact that true hallux flexus has a natural tendency to recovery, it is obvious that the graver surgical operations can seldom be called for. In the case of hammer toe a resection of the articulation may be undertaken without hesitation, because the deformity is more likely to become aggravated than relieved by lapse of time, and because the function of the digit is not sensibly interfered with by obliteration of the joint; but in the case of the great toe the destruction of the metatarso-phalangeal joint inevitably entails a permanent alteration of gait, and perhaps worse troubles. The treatment I have adopted in the milder cases is to instruct the patient to perform a regulated series of passive movements of the toe by the use of his hands, aiding the process by massage of the lower and inner side of the foot, and as the tenderness passes away to practise walking on tiptoe until the normal degree of extension is restored. In more severe examples I have extended the joint forcibly under an anæsthetic, afterwards fixing it in the super-extended position in a plaster splint. The result of this plan in the two cases tried has been very satisfactory. Should the severity of the symptoms and the intractability of the deformity under milder measures call for an operation, we have the choice of several plans:—1. Section of the ligamentous and tendinous structures which limit extension: This may be effected subcutaneously or by means of an open wound, on the principle to be presently described. I am not aware that the subcutaneous operation has been attempted, but there is little doubt that it would involve division of the vessels and nerves which run directly over the tissues to be attacked. In the open operation this injury can be avoided, and the extension can then be made after the healing of the wound. 2. Excision of the head of the metatarsal bone: The effect of this would be the obliteration of the joint and a shifting of the point of support to the distal joint, which is ill fitted to discharge the office. The operation was performed by Hueter for hallux valgus with very bad results. 3. Excision of the proximal half of the first phalanx: This was successfully effected by Mr. Davies-Colley, but the objections to it, although less than those to the operation last mentioned, are of a similar nature. 4. Osteotomy of the metatarsal bone above the head, with excision of a dorsal wedge, so proportioned as to allow the toe to be placed in a position of super-extension: This leaves the articulation intact, and affords all the advantages offered by the other methods. Should a relapse occur from further changes in the joint structures, other operations would still be available. I have not had occasion to carry this out in any case of pure hallux flexus, but I have found it easy and successful in a similar deformity due to rheumatoid arthritis.

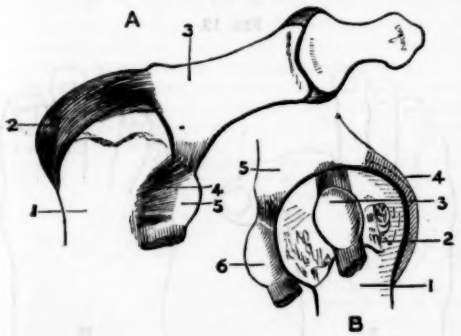
HALLUX VALGUS.

This, the most common of all digital deformities, may be defined as an eversion of the great toe at the metatarso-phalangeal joint, and in some instances of the phalangeal joint also, with alterations, adaptive or causative, in the bony and ligamentous apparatus of the articulation. In its milder forms it must be regarded as a simple malposition caused by the use of boots constructed on the principle of median symmetry. This fault is more common in the shoes made for women than in those worn by men, and consequently the distortion is far more frequent in the latter sex. In a large number of patients examined by Dr. Robinson and myself in the female wards of the Mile-end Infirmary, over 10 per cent. were found to be affected in greater or less degree; while in the male wards the proportion did not exceed 3 per cent. It is a noteworthy fact that the deformity is comparatively rare in the period before puberty. I was able to find only three examples, and these of a very slight kind, among 800 children under the age of sixteen; while incipient hammer toes and hammer fingers were present in considerable numbers. This early immunity is probably due to the fact that the vanity which leads the adolescent to sacrifice comfort to a false elegance has not awakened in the child. The more severe cases of hallux valgus in which the toe is so far everted as to form an angle of from 120° to 90° with the metatarsal bone are comparatively rare, the total number amongst 2600 persons amounting to no more than thirty (twelve male and eighteen female). It is with these that we are especially concerned,

and it is probable that they are closely related in origin to hallux flexus.

Morbid anatomy.—On examining a well-marked hallux valgus it is seen that the facetted surface of the head of the metatarsal bone has been extended considerably over the external aspect, the prominent inner side of the head lies beneath the stretched joint capsule, the sesamoid bones are displaced outwards from their normal grooves, the internal lateral ligament is greatly elongated and considerably thickened, the external ligament undergoes an inversely proportionate shortening and opposes the reposition of the displaced phalanx (Fig. 11); and the cartilage over the portion

FIG. 11.



Hallux valgus. From a preparation at St. Thomas's Hospital. A, Dorsal aspect. 1, Metatarsal bone. 2, Elongated and thickened internal lateral ligament. 3, First phalanx. 4, Shortened external lateral ligament. 5, Displaced external sesamoid bone. B, Plantar aspect. 1, Metatarsal bone. 2, Degenerating cartilage over disused sesamoid furrow. 3, Displaced internal sesamoid bone. 4, Section of thickened capsule (the structure had there assumed the character of a glenoid ligament). 5, First phalanx. 6, Displaced external sesamoid bone; the disused furrow lying between the two sesamoid bones is also degenerating. A large bursa was present over the stretched internal lateral ligament.

of the joint surface, removed from its normal contact with the opposed bones, presents marked degenerative changes. The integumentary structures over the projecting head of the metatarsal bone are affected in the same way as those over the angle of flexion in hammer toe, as a consequence of friction by contact with the shoe leather; callosities and bursal formations, often of great size, are found, and inflammation of the abnormal bursa may give rise to great suffering.

Although the great majority of cases of hallux valgus are undoubtedly provoked by ill-shaped boots, it is very probable that some, and especially those of a very aggravated type, are, like hallux flexus and hammer toe, dependent essentially upon an irregularity of development, and unconnected with any vice in the foot covering. It is at least certain that some examples of extreme deformity are confined to one foot, the opposite member being of normal shape—a fact that strongly negatives the boot theory; and there are also bilateral cases in which the form of the distortion and the history given by the patients and friends make it equally difficult to accept the common explanation. In one instance recently under my notice the first, second, and third toes of the left foot were carried outwards over the fourth, producing a deformity of a strongly marked kind, while the right foot was perfectly well formed, and the patient, an intelligent woman, insisted that "the toes went wrong by themselves while she was growing up," and that her shoes had nothing to do with it. If we accept the developmental theory with respect to hammer toe and hallux flexus, it would be remarkable if hallux valgus did not occasionally arise as a consequence of similar defects of nutrition.

Treatment.—Hallux valgus, like hammer toe, is often a question of æsthetics rather than one of pain or inconvenience, and the patients are only moved to see the surgeon by a natural desire to get rid of a deformity; but in other cases the inflammatory complications in connexion with the associated "bunion," or the interference with the neighbouring toes, upon whose territory the larger digit is encroaching, may give rise to actual and even intolerable suffering. In the milder examples the use of a well-shaped boot and a stocking made with a separate pocket for the great toe, as recommended by Mr. Ellis, will be sufficient to allow the rectification of the defect; and to these elementary measures may be superadded, if necessary, the introduction into the boot of a curved piece of metal fixed to the sole and passing around the outer side of the toe in such a manner as to draw it into its normal axis. In the more severe examples this treatment is insufficient, and we have then the choice of several measures. 1. Resection of the head of the metatarsal bone: This is a very severe operation in its remote, if not in its immediate, consequences, for the reasons already stated, and it can rarely be justifiable. It has, however, been recommended, and in some instances appears to have been successful, although it is probable that the report of the result was, perhaps, too early to be entirely trustworthy. In Hueter's case, already referred to, walking was found impossible a year after the excision, and it was necessary to remove the heads of all the other metatarsal bones to establish equilibrium. 2. Section of the neck of the metatarsal bone with the excision of a cuneiform segment from the inner side, to allow the articulation, together with the entire toe, to be restored to the normal line: This ingenious operation has been performed successfully by Mr. A. E. Barker.[2] 3. Forcible rectification under an anæsthetic, aided, if necessary, by subcutaneous section of the external lateral ligament: The toe is fixed in plaster after the operation, and should the restoration fall short of completeness, as may sometimes happen, the line may be improved by subsequent applications of force and refixation. This has been successful in a case of my own, and I think the metbod is to be strongly recommended, as its failure would still leave the more severe procedures open as a final resource.

Lateral deviation of the lesser toes is frequent in childhood. It was found by Dr. Littlejohn and myself in twenty-five out of 800 children, twelve males and thirteen females, the ages of the subjects ranging between five and fourteen. The version is usually at the first inter-phalangeal joint, but may also be present in the distal joint, and the toe much more frequently diverges towards the tibial than towards the fibular side (six to one). It may lie over or under its neighbour. The fourth toe is affected in about two-thirds of the cases, while the second, third, and fifth toes take an almost equal share in making up the remaining third. It is symmetrical in nearly two-thirds of the examples (sixteen out of twenty-five). In the early stage the joint may be straightened by passive force; but in the later reposition is opposed by ligamentous tension, and perhaps by some alteration in the form of the bone. Like hammer toe, it occurs only during the developmental period, and there is no reason to connect it with any special defect in the shape of the shoe. In none of the examples under my own observation was it associated with hallux valgus; but a double hammer toe (third) was present in one case, and version of the fingers in three others. The children appeared to be in good health. The deformity may usually be relieved by the use of a splint, like that recommended for hammer toe; but in some cases a partial resection might be advisable.

ARTHRITIC DEFORMITIES OF THE TOES.

Arthritic hammer toe may be due to rheumatoid arthritis, gout, rheumatism, or traumatic inflammation. The variety dependent upon rheumatoid arthritis is the most common of these, and the most likely to be brought under the eye of the surgeon. Its characteristics are as follows:—1. It is not limited to the developmental period, and may occur at any age in association with the causative disease, but it is most frequently met with after middle life. 2. The deformity is usually present in many or all of the toes and in both feet, and may be associated with lateral (fibular) displacement of the digits, and with bony outgrowths at the margin of the affected articulations. The movements of the joints are much more impaired than in true hammer toe, owing to changes in the cartilage, and fibrous ankylosis is often present. 3. Manifestations of the causative disease may be found in other parts of the body.

It is unnecessary here to say anything as to the nature and course of the general disease. As a rule the case falls into the hands of the physician, and the surgeon is rarely asked to intervene. It must be pointed out, however, that the contractions may cause severe incon-

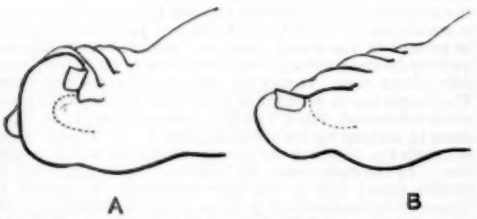
[2] THE LANCET, vol. i. 1885.

venience, and that despite the intractable nature of the affection the reaction of the patient to surgical operation is favourable, recovery being nearly as speedy as in true hammer toe. I have on two occasions operated with the result of considerable relief to suffering, and without any surgical casualty. In one instance eight toes underwent operation at a single sitting, and the wounds all healed by immediate union (Fig. 12).

In gouty contractions of the toes the history of the sudden and painful inflammatory attacks preceding the deformity, the almost constant implication of the metatarso-phalangeal joint, and the presence of other indications of gout leave no question as to the nature of the disease. In this affection the surgeon can rarely be called upon to interfere. Contractions in association with acute rheumatism or acute rheumatoid arthritis are comparatively rare. Lastly, a neuropathic affection which produces ankylosis of the joints in association with rapid atrophy of the muscular and integumentary structures is known. A case of the kind is now under observation in St. Thomas's Hospital, and will shortly be placed on record.

Arthritic deformities of the great toe are very common. The direction of the distortion of the member in rheumatoid arthritis appears to depend upon the size and position of the osteophytic developments at the margin of the affected articulation. Most commonly the position simulated is that of hallux valgus, more rarely that of hallux flexus, and we may also find a condition that may be called "hallux retractus," in which the distal phalanx is bent upwards so that the nail approaches or even touches the dorsal surface of the first phalanx. (See Fig. 12, A.) This is often a painful deformity and calls for treatment. I have not yet seen an arthritic hallux varus. It is probably rare, because the form of the boot opposes the divergence of the toe in this direction.

FIG. 12.



Rheumatoid arthritis. Hallux retractus with hammer toes. A, Before operation. B, After operation. The dotted outline in A indicates the position of the flap made to expose the diseased joint. From casts at St. Thomas's Hospital.

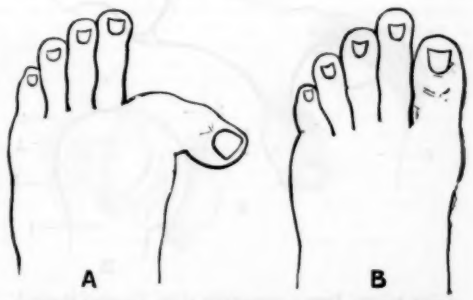
The diagnosis is readily established in the majority of cases by the presence of bony outgrowths, by the evidences of destruction of cartilage, and by the existence of lesions of similar origin in other joints. Usually the whole of the smaller digits are coincidently affected and assume the position of hammer toe, with more or less lateral displacement towards the fibular side.

Gouty distortions of the great toe are generally associated with eversion—a valgus,—and complete ankylosis may supervene. The history of acute attacks, the presence of tophaceous deposits, and the absence of the signs of rheumatoid arthritis generally bespeak the nature of the disease. The ankyloses induced by acute rheumatism and acute rheumatoid arthritis more often fix the digit in the position of hallux flexus. Contractions dependent upon tubercular disease and common arthritis resemble the corresponding affections in the hand, and require no separate notice.

Paralytic contractions of the toes may be met with in association with various diseases of the nervous system. The most common condition is a hallux retractus associated with a hammer deformity of the lesser toes, and an exaggeration of the plantar arch (paralytic cavus). A case of the kind, complicated with perforating ulcer, is now under my care. Occasionally a single toe is affected, the digit assuming a position like that of the clawed finger in ulnar paralysis, with extension of the proximal and flexion of the middle and distal phalanges, and, unlike true hammer toe, in which the musculature retains nearly all its vigour, there is distinct evidence of paralysis, and the capacity of the flexed joints for passive extension is usually retained for long periods. In these cases where the unopposed extensor leads to very inconvenient retraction of the first phalanx the tendon may be divided, and Mr. Davies-Colley suggests that the cut end should be fixed to the part of the metatarsal bone in order to preserve its utility as a dorsal flexor of the ankle.

Congenital and infantile contractions of the toes are not very rare, and are usually secondary to irregularities of nutrition, but are occasionallly of paralytic origin. The following is a curious example of the condition in association with macrodactyly. The patient, a boy aged eleven, was admitted into St. Thomas's Hospital in March, 1887, with a congenital deformity of the right great toe. The member was somewhat imperfectly developed, and projected inwards almost at right angles with the metatarsal bone. (See Fig. 13, A.) A slightly prominent

FIG. 13.



Congenital hallux varus. A, Before operation. B, Three years after operation. The relatively small size of the great toe in B is due to the abnormally great development of the other toes.

integumental fold was present on the inner side of the metatarso-phalangeal joint, and the ligamentous and other fibrous tissues beneath this resisted the replacement of the digit in its normal line. The toe could be moved feebly by an effort of the will, but the abnormal direction of the member prevented the muscles from exercising any useful function. The smaller toes were distinctly hypertrophied, but were otherwise well formed. The boy was unable to wear a boot, and was completely crippled. The toe was apparently useless, but it was judged advisable to restore it to its natural position rather than to amputate. This was effected by subcutaneous division of the internal lateral ligament and the application of a small plaster apparatus. Fifteen days later the child left the hospital with a light metal splint fixed to the inner side of the foot and toe. A few days since he presented himself for examination, and it was found that the good result was more than maintained, as the toe was not only straight, but had acquired its normal size and considerable power of movement. The boy said he was able to walk seven or eight miles without fatigue. The relative hypertrophy of the lesser toes was still obvious. (The patient was introduced at the close of the lecture.)

In concluding this summary, which I have found it necessary to abbreviate in certain sections in order to bring the subject within the allotted limits, I must thank the President and the Council for the honour they have conferred upon me in appointing me to the Hunterian chair of Surgery and Pathology. I must also express my indebtedness to many friends for their kind assistance in the course of my researches:—To Mr. William Adams, for his courtesy in placing his valuable collection of casts at my disposal; to my colleague, Mr. Shattock, for giving me the benefit of his bacteriological experience; to Mr. Charles Stewart, Mr. Edgar Willett, Mr. Makins, and Mr. Davies-Colley, for the opportunity of showing many interesting preparations; and to Dr. A. H. Robinson, Mr. Percy Potter, Mr. J. R. Lunn, Mr. Bernau, Mr. Johnson Smith, Dr. Litteljohn, Mr. Sydney Stephenson, Mr. A. H. De Lom, and Surgeon-Major Owen for much help and information in various directions.

Note.—Since the conclusion of the lectures the bacteriological investigation of the two cases of Dupuytren's contraction have been brought to a conclusion. The result is negative, the second growth proving to be micrococcus candidans, and hence in all probability of accidental origin. The experiments will be repeated as occasions offer.

ON

TUBERCULIN IN RELATION TO SURGICAL TUBERCULOUS DISEASES.[1]

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To some it may seem an unnecessary expenditure of time and energy to discuss the relation of tuberculin to surgical tuberculous diseases, seeing that this remedy has of late fallen into great disfavour and has been practically given up in practice. I think, however, that most of those who have employed it will agree that, although it has many very objectionable qualities, it also possesses remarkable selective and, within certain limits, remedial properties, and in so far, therefore, is deserving of further study. At the end of April I discussed the whole matter very fully in a paper which I read at the Royal Medical and Chirurgical Society; and with regard to tuberculin itself, I have but little to add to what I said on that occasion, seeing that I have not treated any fresh cases since that time. I can therefore only speak on the subject with three months' further experience of the cases which were then under treatment. My remarks to-day will fall under three headings: (1) The beneficial effects of tuberculin; (2) its hurtful action; and (3) its future.

1. *The beneficial effects of tuberculin.*—The first effect of the injection of a moderate dose of tuberculin—say, from two to eight milligrammes—is, apart from the constitutional disturbance, marked inflammatory action at the seat of the tuberculous disease, indicated clinically by redness, swelling, and exudation, and microscopically by infiltration of the tuberculous tissue with numerous leucocytes. This effect is usually, though to a constantly lessening degree, seen at each of the subsequent injections till from three to ten have been given, when it becomes, as a rule, hardly noticeable. After the lapse of two or three weeks improvement can generally be observed in the local condition; thickening subsides, pain, if previously present, becomes less or may disappear altogether, and in most cases the local condition after from four to six weeks' treatment is better than it was previously, the result depending largely on the dosage and the method of administration. And now, as a rule, where Koch's method of dosage is employed matters come to a standstill; indeed, they not uncommonly begin to go back, and if the treatment is left off at this stage relapse almost always occurs at once and with much greater rapidity than is usually the case where relapse takes place after a corresponding degree of improvement under other methods of treatment.

As regards the ultimate results the following is my experience. I have treated thirty-eight cases of surgical tuberculosis altogether, and three for a time, by Koch's original method of administration—viz., by intermittent dosage, these cases being chiefly lupus, diseases of bones and joints with and without suppuration or sinuses, strumous glands, &c. Of these thirty-eight cases, five have benefited directly and to a marked degree, while three others have also much improved, but how far the improvement in the latter cases was due to the tuberculin, and how far to other treatment, I cannot say. Of the five cases which benefited directly as the result of the treatment, four remain well, and in three of them two months at least have elapsed since the treatment was stopped. Of these, two were cases of well-marked and progressing synovial disease of the knee-joint in children, and at the present time the joints are normal in all respects, and the patients are running about. The third was a case where disease recurred after arthrectomy of the hip, and showed no tendency to improve, and when I was more than once on the point of excising the joint. Here the sinus healed up in a few weeks, and the part is now apparently sound. The fourth case was that of a medical man with tuberculous laryngitis complicated with phthisis. The ulceration of the larynx healed and remains healed, but the patient is still going on with the injections on account of his phthisis, which, however, is also very much improved; I saw him a fortnight ago on his return from a voyage to New Zealand. The fifth case was also one of tuberculous laryngitis, likewise complicated with phthisis, in which the laryngeal trouble healed and remains healed. As I have said, these cases showed very marked improvement; indeed, apparent disappearance of the disease. Whether this improvement will be permanent—in other words, whether the disease is cured, or whether there will still be a relapse—I cannot of course at present say. Some of the other cases improved for a time, but the disease recurred on stopping the treatment, or various operations were performed as soon as it was found that improvement had ceased. These results are certainly not brilliant, especially when we bear in mind the risks of the treatment, to which I shall presently refer.

It may be remembered that at the meeting to which I have alluded I suggested another mode of administering the remedy, which seemed to me to promise better results. It consisted in giving the injections at least twice and better, thrice daily, and so regulating the dose as to avoid febrile and general reaction as far as possible. I do not lay so much stress on the amount to be given at each injection as on the frequency, but I think that where it can be done a fairly full dose should be reached soon, and in my cases I went up slowly or rapidly, according to circumstances, till a decigramme was given at each injection, and in two instances I got as high as three decigrammes three times a day. I have treated by this plan of continuous dosage nine cases from the beginning and three cases after previous unsuccessful treatment by the intermittent method. Of the nine cases, six have improved to such an extent that at present there is no evidence of disease, and that although the treatment has been stopped for some weeks. One was a case of lupus of the face, where the injections were continued for four months, and no local treatment was used. Two months have now elapsed since the treatment was stopped, and there is as yet no recurrence of the lupus, but some enlarged glands in the neck have since suppurated. A second case of very bad lupus is also still without recurrence six weeks after the cessation of the treatment. In this case the nose and both cheeks were affected; one cheek was scraped, one cheek was treated with Unna's salicylic and creasote plasters, but the nose was not treated locally. At the present time the result is equally satisfactory in all parts, but the skin over the nose and lips is much softer than that on the cheeks. The third case was one of spinal disease without abscess, but with marked tenderness &c., in which the treatment was continued for two months; since that time the patient has been free from pain in the back, but she still wears a spinal jacket. There were also two cases with sinuses after operation for tuberculous joint disease where the sinuses have closed and remain so. And the sixth case was one of ulceration of both corneæ which healed. Further, one case of lupus has been under treatment in this way for five months, and is steadily improving. In this case portions were scraped &c., but a considerable part could not be satisfactorily dealt with in this way; and here, curiously enough, as in the first case, although the lupus has been steadily improving, several enlarged glands in the neck have suppurated. Finally, one case of lupus, which had relapsed under Koch's method, steadily improved on adopting this plan. I am far from saying that these cases are really cured, but they have certainly improved very markedly, and the results are much better than those which I obtained with the intermittent method. It is true that the cases submitted to this plan were to a certain extent selected, while the others were not; but nevertheless I think that the results support my contention that the best and indeed, except in rare cases, the only method of administration which promises a favourable issue is the continuous plan. The great objection to it, apart from the trouble, is the expense, which almost debars its use in hospital. I have seen no dangerous phenomena in the cases where it was employed, and the patients have certainly suffered less general disturbance than by Koch's original plan.

One great question with regard to the improvement after the administration of tuberculin is whether it is due to a specific remedial action of the drug on the tuberculous disease, or whether it is merely a secondary result of the inflammation set up in the first instance in and around the affected parts. That a transient acute inflammation involving a part which is the seat of tuber-

[1] A paper read in the Section of Surgery at the annual meeting of the British Medical Association, held at Bournemouth, July, 1891.

culous disease may produce a temporary and sometimes very marked improvement has been long known in connexion with the effect of an attack of erysipelas on lupus—and, indeed, so great has been the benefit in some instances that surgeons have actually inoculated erysipelas in cases of inveterate lupus with the view of curing the disease. That a great part—probably the greater part—of the early improvement after the injection of tuberculin is due to the acute inflammation which is set up in the first instance, I have no doubt; indeed, we see in cases of lupus that the more marked the local reaction at first, the greater and more marked is the subsequent improvement. Nevertheless, I think that tuberculin has a distinctly remedial action apart from this acute inflammation. For example, I have seen that while cases which were being treated by Koch's method have been going back, improvement took place on increasing the frequency of the dose in the way I have described, and that without the occurrence of any marked acute inflammation; and microscopically, we find at the later stages in cases where improvement is still going on, that the changes are no longer those of acute inflammation so much as of atrophy and disappearance of the tubercular elements.

To sum up what I can say as to the good effects of tuberculin, I have nothing to add to what I said in my paper at the Medical and Chirurgical Society—viz., that it is only rarely that we can expect a complete cure by tuberculin alone; that the best—indeed the only promising—mode of administration is by giving frequent doses in the way which I described; and that the treatment must be continued for a long time, and must in most cases be directed rather to keeping the disease in check than to getting a final cure. And as regards the position of tuberculin in surgery, that it is of use in cases of lupus in combination with other methods of treatment, and in cases of bone and joint disease after operation, where healing has not taken place, or where the diseased tissues have been only partially removed.

2. *The hurtful action of tuberculin.*—In considering the remedial properties of tuberculin, we must not omit to consider also its hurtful action, which in many cases outweighs its good effects to such an extent as to lead to its abandonment or preclude its employment. The most striking of the bad effects of tuberculin are the fever and the illness which accompany the early injections unless very minute doses are administered. The fever, which is sometimes very high, is accompanied by sickness, headache, pains in the limbs, cough, and marked general depression; and, although these effects do not usually last longer than one or two days, yet recurring frequently even in a lessening degree, they pull down the patient very much, so that after the first fortnight of treatment it is usually found that the patient has lost weight, is thinner, weaker, anæmic, and altogether in a worse condition than before. No doubt, once this stage is past, the patient rapidly picks up; but its occurrence is a serious matter, and the symptoms have in some cases been so severe as to necessitate the suspension of the treatment.

The local inflammation which occurs at the early period of the treatment may also lead to serious complications, more especially where the disease is located in internal organs. Where the tuberculous disease is extensive or scattered throughout an organ—such as the lung—the inflammation occurring around the deposits may of itself lead to very serious consequences—for example, pneumonia. And not only is the inflammation dangerous *per se*, it is also dangerous as tending in various ways to aid the spread of the disease. It is, however, possible that this spread might not occur to any serious degree as the result of the inflammation alone were it not that, as I shall presently point out, tuberculin, apparently in some cases, predisposes the tissues to fresh infection, and thus, while the inflammation may open the way for fresh infection, it is not improbable that that accident might not occur at all, or only to a very limited extent, but for this predisposing action on the part of the remedy.

Among the ways in which it is conceivable that the local reaction may aid the extension of the disease, the following seem to me to be not unlikely:—In the case of the lung, for example, the increased amount of fluid sometimes poured out into the bronchi after the early injections, carrying with it, as it must, cheesy material and tubercle bacilli, may be imperfectly expelled, and consequently reinhaled into healthy parts of the lung, where it starts fresh foci of disease. Again, where the tuberculous deposit involves the pleura, the inflammatory action may lead to its communication with the pleural cavity, and consequently to infection of the whole serous surface. Similarly, where the tuberculous disease involves the wall of a blood or a large lymphatic vessel, a communication may be established with the circulation, with the consequent occurrence of secondary deposits elsewhere, or of an acute general tuberculosis; and further, the exuded fluid distending the tuberculous foci and the tissues around them, may carry tubercle bacilli away with it and deposit them in the neighbouring parts, and thus lead to the occurrence of fresh disease in previously healthy parts. These views probably apply also to tuberculous joint disease and other surgical affections, as well as to disease of internal organs, although not to the same degree on account of the different structure of the parts. So far as my own experience goes these dangers are almost entirely theoretical. Except in one instance—a case of tuberculous laryngitis—I have not seen any evidence of infection of previously healthy parts during the treatment, and none of my patients have developed acute tuberculosis. Nevertheless it is clear from the experience of others that such accidents can occur, and it seems to me most probable that they take place in one or other of the ways which I have just mentioned.

Another objection to the general employment of tuberculin is its danger in cases where sepsis is present. Where a tuberculous sinus or cavity contains also pyogenic organisms, the increased amount of fluid exuded as the result of the early injections supplies pabulum for these organisms, while the weakening and possible necrosis of the wall of the sinus or cavity enables them to penetrate into the tissues, and, it may be, set up very grave septic troubles. No doubt, by providing free exit for discharge these dangers may be avoided to a considerable extent, but by no means altogether; and in several of my cases where septic sinuses were present I have been compelled to give up the treatment on account of the increased septic trouble. Indeed, I regard the presence of sepsis as a very grave complication, and one contraindicating in most cases the use of tuberculin. At one time I thought that this substance actually predisposed the body generally to septic processes, but I have not been able to obtain any support to this view from experiments on animals. Thus I have treated rabbits with tuberculin before and after injection of pyogenic organisms, and have at the same time in a corresponding number of animals injected the pyogenic organisms without employing tuberculin, and on the above view I expected that the septic processes would be more marked in the former than in the latter animals. This, however, did not prove to be the case; in fact, on the contrary, the suppuration was less and more limited in the animals treated at the same time with tuberculin than in the others.

The last objection to the use of tuberculin to which I need allude is one which had not impressed me to the same extent in April that it has since, because I was at that time continuing the treatment. It is that tuberculin not only does not produce immunity, but actually in some cases apparently predisposes the body to the tuberculous infection. Hence, unless the treatment is continued till the bacilli have died out (and even in some cases while the treatment is being continued), recurrence may take place with startling rapidity and the disease may extend locally more quickly than before the treatment, and may also break out in other parts of the body. In cases of lupus more especially, I have been much struck with the rapidity of the relapse after the cessation of the treatment, and not only with the relapse in parts where the disease formerly existed, but also with the rapid extension of the disease into previously healthy skin. Lupus is, as we all know, a slowly progressing disease, and yet in one case I saw the disease make such rapid progress after the cessation of the injections that distinct extension could be made out in two days. In the spring I made some experiments to see whether immunity could be produced in guinea-pigs by means of tuberculin. For example, three guinea-pigs were treated with tuberculin, and twenty-one days after treatment was commenced were inoculated with tuberculous material. During that time one had thirteen doses of 2 centigrammes every day; a second had eighteen doses also of 2 centigrammes every day; and a third had six doses of about 2 decigrammes every third day. From three to eight days after the last dose these three animals were inoculated with tuberculous tissue, and, at the same time, three other guinea-pigs which had not been treated

were inoculated with the same material. In those animals which had been treated with tuberculin the disease appeared earlier and progressed more rapidly than in the others. In other words, not only was immunity not produced, but the animals were actually rendered more liable to the disease. The clinical observations on man are for the most part in accord with this experiment on guinea-pigs, especially where the doses given have been very large.

We have therefore in tuberculin a substance which, on the one hand, possesses certain remedial properties, but which, on the other hand, exposes the patient to a series of risks which are of grave importance; and though these risks may be minimised to a certain extent by modifications in the mode of administration and in other ways, yet they must be carefully considered before the treatment is commenced in any given case.

(To be concluded.)

OBSERVATIONS ON THE

TEMPERATURE OF PHTHISICAL PATIENTS IN RELATION TO THE TEMPERATURE OF THE ATMOSPHERE.

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OF the many varied forms of treatment that have from time to time been in vogue for phthisical patients none has received wider attention or has gained credit with greater justice than the climatic. And yet the exact form that this treatment should take has been itself a subject of much difference of opinion. At first a voyage was advocated, later Madeira, New Zealand, and South Africa were extolled for the good effects of their air. But within the last few years an entire revolution has taken place, and instead of a warm, relaxing climate, clear and bracing air is chosen to which the patient is to be sent. At the same time high elevation above the sea-level is held to be a great advantage, and it is to these combined qualities that the valleys of Davos and the Engadine owe their present reputation in the treatment of consumption. It is, I believe, a generally accepted truth among physicians especially qualified to give an opinion on the subject that consumptive patients enjoy better health in all respects during the winter than during the summer months, and this, too, allowing for the facts that hæmoptysis is more common in hot weather and that the very heat is likely to increase the night sweating. Certainly in late spring and early summer there apply for admission to hospitals a number of patients who having been under observation and treatment as out-patients for a considerable time nevertheless have such a rapid increase in their symptoms that they are no longer fit to be out-patients, and are easily recognised as suffering under very active or acute phthisis. Now, have these two last facts anything in common? Is there any cause which operating for the benefit of patients at Davos operates for the benefit of patients in England during the winter months, and ceases to operate or is replaced by a damaging cause during the summer months? In a word, is there any relationship between the temperature of phthisical patients and that of the external air? To determine that question is the object of the present paper. The cases that have been used in this investigation may be included under the head of "acute phthisis," and it will be well to indicate briefly the form of consumption that is meant by that name. At the outset it must be plainly understood that by "acute phthisis" is *not* meant "acute tuberculosis," with its tubercles widely disseminated throughout the body. The latter disease is so unlike in its course that of ordinary phthisis, that little good would come of considering it in this connexion. But acute phthisis is often characterised post mortem by the circumscribed area in which tubercles are found. Perhaps it is only one upper lobe, while the rest of the lungs is almost free. In the affected part tubercles are very thickly studded, and caseate rapidly. Excavation proceeds by strides, and in a very short time the lobe, or possibly the whole lung, may be shelled out. During life the rapidity of the process may be evidenced by the detection with the microscope of many scarcely altered yellow elastic fibres in the sputa. In fact, this form of phthisis is very closely allied to, if not identical with, the disease formerly called "caseating pneumonia." Night sweats are profuse and anorexia is common; diarrhœa and hæmoptysis are rare (the latter especially so), while the temperature is markedly hectic in character. The prognosis of such cases is bad; of the 100 patients which constitute my series, twenty-seven died in the hospital, and thirty-two were registered as being "worse" when they left. The patients are as a rule young, the average of my cases being twenty-six years and ten months.

The grounds upon which this class of case has been chosen for the investigation are three:—1. The hectic nature of the temperatures, often showing a difference of from 4° to 5° between morning and evening temperatures, will allow a better comparison to be made than where differences are smaller, and also small individual variations do not make so much difference in the general result. 2. There can be no question about the activity of the disease. 3. There is much greater presumption in favour of careful taking of temperatures when the pyrexia is known to be great than when the temperature is normal or nearly so. Whatever be the individual view as to the advantage or disadvantage of a high temperature *per se*, everyone agrees that it is an index of the activity of the disease. The higher the temperature of the patient, the more active is the disease, and *vice versâ*. Now what is true of the individual is also true of the class to which he belongs, and it may be taken therefore for granted that (cases of acute disease only being under consideration) if of two classes of patients the temperature of one class is lower than that of the other, that class whose temperature is lower is more favourably situated with regard to the disease than that whose temperature is higher. Hence the welfare of the cases under discussion varies inversely as the height of the temperature above normal. To make differences come out in greater contrast, I thought best to confine my inquiry to the two extremes of temperature in the year, and hence chose the following periods of twenty-five days each:—(*a*) 1887: July 14th—Aug. 7th; (*b*) 1887–8: Dec. 20th—Jan. 13th; (*c*) 1888: July 20th—Aug. 13th; (*d*) 1888–9: Dec. 20th—Jan. 13th. During the hot periods the average temperatures for the last fifty years as given in Whitaker's Almanack is 62°, while during the cold periods it is 37°. During the above-mentioned periods there were in the hospital 33 cases, 17 cases, 28 cases, and 22 cases respectively, quite fortuitously 100 cases in all. First, then, with regard to the external temperatures. An average temperature for each period was obtained by simply adding the means of the maxima and minima of each day, and dividing by the number of days (twenty-five) in the period. This method showed that in the periods above *a* was 3·3° above the average for the last fifty years;[1] *b* 8° below; *c* ·08° below;[2] *d* ·5° above. Secondly, with regard to the patients. The male and female cases for each period were set into groups, and the sums of their temperatures on each morning and evening of the period were found. Dividing these sums by the number of cases in a group gave an average temperature, which was charted, corrected to two places of decimals. Next, the same was done for these temperatures as for the external, and hence a single average temperature was also found for all the patients during each of the four periods. They are as below:—

Period.	Average temperature of patients.
1887, July—August	99·680
1887–8, December—January	99·090
1888, July—August	99·516
1888–9, December—January	99·734

Comparing the two sets of results, and omitting the winter period of 1888–9 for the moment, we see that the relationship is perfect, and that the order in both classes—patients and atmosphere—is the same:—1. July—August, 1887. 2. July—August, 1888. 3. December, 1888—January, 1889. But the difficulty is the greatest with the temperature of the patients in December—January, 1888–9. These, so far from being lower, actually come out at the top of the series, and, moreover, as there is only 0·009° between the average of the female and of the male cases during that period, it cannot but be something intrinsic in the temperatures, and not dependent upon error. Now, this difficulty is not insurmountable. Owing to the fact that the whole of the hospital, corridors included, is artificially warmed during winter, it is hardly fair to compare winter and summer

[1] Jubilee year, well remembered for the extremely hot and dr summer.

[2] A cold and wet summer. One is struck by the little difference there is between *a* and *c*, when one considers the vast difference there seemed to be between the years.

temperatures *inter se*, but winter should be compared with winter, and summer with summer. And if this be done, the difficulty entirely vanishes. Glancing back to the two tables, it is seen that—(1) the summer 1887 was hotter than the summer 1888, and the patients' temperatures in the summer 1887 were higher than those of the summer 1888; (2) the winter 1888-9 was warmer than the winter 1887-8, and the temperatures of the patients in the former period were higher than in the latter period. Further, there is at least a reasonable explanation possible for the fact that in the winter 1888-9 the temperatures of the patients were highest of all. It is seen that the average external temperature of that period was 0·5° above the average of the last fifty years. Now this does not tell the whole story. As a reference to the calendar will show, there was a long continuation of very mild weather, but a few days in which the cold was intense, and the minima here entirely swamp in an average the maxima, individually smaller but far more numerous. Now the degrees of frost though they lower the average external temperature will hardly affect that inside an artificially warmed building. Recognising, then, the fact that the period was, as a whole, a very much milder one than would appear by the small amount indicated by the average, my suggestion is as follows: The animal economy in England has been accustomed to cold in winter, but when the weather happens to be particularly mild the animal economy striving to keep balance with it rises but overshoots the mark, and hence gives a higher temperature than we should anticipate. This may seem a fanciful explanation, but there is an exactly analogous example, though in the opposite direction, in the temperature after the crisis of such acute diseases as terminate in that manner. When the crisis comes the temperature tries to fall to normal, but overshoots the mark, and as a consequence remains subnormal for some days. Moreover, in cases of starvation after the giving of nourishment, the temperature, till then subnormal, becomes rapidly raised above normal, and sinks to normal later on; it overshoots the mark, in a word. Speaking broadly, therefore, the temperatures of patients with acute phthisis vary with the external temperature, and consequently their general health is better when the weather is cold.

Now what is true of the greater is also true, though in a lower degree, of the less, and consequently I think we are warranted in assuming that the same holds good with chronic phthisis. As cases of chronic phthisis are those especially for which climatic treatment is advocated, so far as this paper goes it lends support to the Davos and Engadine treatment in preference to that of Madeira and South Africa. As far as actual temperatures on individual days are concerned, I have not satisfied myself that I can trace any definite relationship. Where differences are so small as they are in the variations of human temperatures, it is not likely that anything but a more prolonged change of external temperature would give evidence in the human temperature chart, and consequently the failure of correspondence on definite days need hardly be wondered at.

Note.—At the same time as the above investigation was being carried on observations were also made on the relationship with barometric pressure; but owing to the fact that variations at any given place in England are so small, the results were hardly worth the large amount of trouble entailed in collecting them. Sufficient, however, was done to show that the subject was one which would not prove barren if worked out for two places (such as Davos and London) having a fair difference of barometric pressure.

Stroud-green, N.

A CASE OF

STRANGULATED RETRO-PERITONEAL HERNIA (MESENTERIC HERNIA OF COOPER).

BY ALFRED G. BARRS, M.D., M.R.C.P.,

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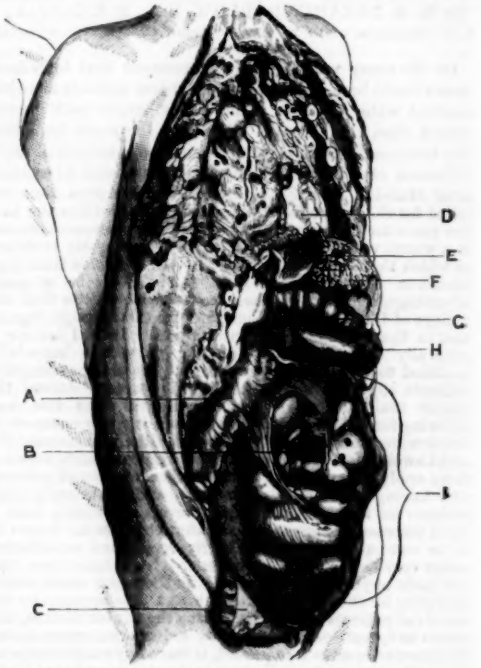
THE patient, Thomas A——, aged eighteen years, was admitted into the General Infirmary, at Leeds, under the care of the late Mr. McGill, on Oct. 15th, 1890, suffering from a comminuted fracture of the right femur, for which a long external splint and extension by weight and pulley were applied. The case was pursuing a favourable and uneventful course until the morning of Sunday, Oct. 26th, when he complained of intense and continuous pain in the epigastrium, causing him to roll about in bed; later on in the day the pain assumed a burning character, and collapse became marked, the pulse quick and feeble, the skin cold and clammy. Diarrhœa and vomiting set in at the beginning of the pain, and continued to the end. He gradually became worse, and more collapsed, and died at 8 P.M. The patient had eaten three green apples and a considerable quantity of grapes on the previous afternoon.

It is scarcely necessary to remark that the conditions found post mortem were entirely unsuspected during life. The post-mortem examination was made by myself eighteen hours after death. (A well-grown, well-nourished body; signs of comminuted fracture of the right femur easily demonstrated). The abdomen presented such a striking departure from its natural shape that I at once had a drawing of it made. The walls were extremely tense from pressure within, which was producing a bulging of the parietes, chiefly or almost entirely involving the lower two-thirds of the abdomen, and so leaving the epigastric region depressed and empty. The distension had not been able to overcome the resistance of the rectus abdominis to such an extent as in other parts of the abdomen, so that an obvious depression existed in the middle line of the body. The abdomen was tympanitic on percussion in all parts. The whole appearance was not much unlike that presented by the abdomen in pregnancy at term, except for the median depression, and suggested at once the rapidity with which the change had been established. On opening the body in the ordinary way one at once came upon what appeared to be a second sac of peritoneum, containing apparently the whole of the small intestines, which could be seen distinctly through its walls. This sac corresponded to and was clearly the cause of the unusual shape and distension of the abdomen. It was quite as large as an adult head, perfectly symmetrical, and extremely tense. It appeared to be free towards its upper left and lower limits, so that one's hand could be passed around it in these directions, but attached in all its parts to the right. It could be easily displaced or turned over to the right side, when a large aperture leading to its interior was at once exposed, and coils of distended small intestine began to escape. Its walls were



A, Ascending colon in wall of sac. B, Artificial opening in the sac. C, Parietal peritoneum. D, Pericardium. E, Left lobe of liver. F, Great omentum turned up over stomach. G, Transverse colon. H, Distended jejunum. I, Hernial sac.

beautifully clear and free from all vascularity or opacity. The aperture shown in the engraving upon the summit of the sac was accidentally made in opening the body. The hepatic flexure of the colon with the immediately adjacent parts of the ascending and transverse colon were incorporated in the right and upper part of the sac. The whole of the small intestine from the end of the duodenum to the ileo-cæcal valve was contained in the sac, its walls, though smooth and polished, were intensely injected and tightly stretched by accumulated gas and fluid in its interior—in short, it showed all the signs of well-established strangulation. It required some time and repeated examination, in the absence of any available experience on the matter, to determine the precise anatomical nature of the conditions briefly described above. Ultimately it became quite clear to all who saw the case that we were dealing with a congenital displacement of the small intestines into a sac formed in the following manner. The left layer of the mesentery had been invaginated along the posterior wall of the abdomen, and behind the superior mesenteric vessels, displacing forwards and to the right the right layer of the mesentery, the parietal peritoneum on the posterior right abdominal wall, the right meso-colon, the right colon, and the parietal peritoneum on the right abdominal wall—that is to say, a sac formed by the left layer of the mesentery lay behind the parts of the peritoneum and the large intestine enumerated above. I had myself never before seen anything of the kind, neither was I acquainted with any literature bearing upon the subject, so I ventured to send a short account of the case to Mr. Frederick Treves, along with the photograph, of which the above is the engraving, of the opened body. He was able at once to identify the condition, and very kindly wrote to me, giving me, amongst much interesting information upon the matter, reference to Sir Astley Cooper's plate illustrating his mesenteric variety of retro-peritoneal hernia, to which variety the case here recorded clearly belongs. There is no need for me to attempt any explanation of the mechanism by which this abnormality was established, for this has already been done in Mr. Treves's admirable account of the development of the fossa duodeno-jejunalis,[1] and its relation to the development of recto-peritoneal hernia. I would, in conclusion, draw attention to an extremely interesting paper upon Retro-peritoneal Hernia by Dr. Pye-Smith,[2] which, so far as its author was then aware, was the first English notice of the duodeno-jejunal fossa. Dr. Pye-Smith in this article makes reference to Treitz's writings on the subject, by whose name Mr. Treves informed me this hernia is known to continental writers.

Leeds.

ARSENIC IN PERNICIOUS ANÆMIA.

By E. A. BARTON, L.R.C.P., M.R.C.S.

THE following case, as illustrating the value of arsenic in pernicious anæmia, is not without interest.

J. A——, a coachman, came to me on Nov. 25th, 1890. He then stated that he had always been somewhat pale, but for the last three months he had become much paler, and was very weak, the least effort fatiguing him. He complained that for the last three or four weeks there was blood in his mouth on waking in the morning. The patient was emaciated and intensely pale, the hands were pearly white, the conjunctivæ lemon-coloured, and the ears looked transparently waxy; the gums were very large, spongy and quite pale, and at the junction of the teeth and gums was a thin line of blood; the lips were blanched and the tongue pale but clean; there was no œdema of ankles. Altogether he had the appearance of a man who had recently suffered a severe hæmorrhage. He was short-breathed, and felt faint on standing. The lungs were quite sound. The heart had a soft systolic murmur at the apex, and another at the base over the pulmonary cartilage. They were both probably hæmic in origin. A marked venous hum was also observed in the neck. The pulse was quick, very compressible, and not accelerated. There were no petechiæ on the skin. The urine was very pale in colour, and contained one-sixth albumen. Three grains of sulphate of iron were ordered thrice daily. A week afterwards I had the opportunity of making a careful examination of the blood, and found that the corpuscles numbered only 18 per cent. of the normal quantity, while the hæmoglobin was 23 per cent. The corpuscles themselves varied in size, were soft and plastic, and formed rouleaux readily. The blood was, on being drawn, obviously pale and thin. There was no leucocytosis. He complained of being unable to read, and on examination large hæmorrhages were observed in both retinæ. The urine at this time contained only the merest trace of albumen, which in a day or two entirely disappeared. The iron was discontinued and five minims of liquor arsenicalis thrice daily were substituted, with very generous diet. On Dec. 13th, a week after the arsenic was begun, he had a fit, which seemed from the description more of the character of a faint, for when I saw him he was sensible, with no paresis. There was some tendency to wander in his talk. The next morning he volunteered the statement that he saw red colour when looking at anything white. He was also annoyed by noise in his head "like a steam engine," keeping time to his heart. A fortnight after the commencement of the arsenic (which was never increased beyond five minims three times a day) there was no further bleeding from the gums, and he declared himself stronger, and was allowed to move about his room. The urine was normal, but very pale, and the appetite extraordinary, for besides the most nourishing diet of strong soups &c. he took three pints of milk daily. In three weeks he was able to walk half a mile without fatigue, and in a month returned to work, the corpuscles on Jan. 16th being 76 per cent. and the hæmoglobin 60 per cent. The hæmorrhages into the retinæ had entirely disappeared, except for a slight blur on the right side. He could read small print. He continued the arsenic for ten weeks from the commencement.

Recoveries from pernicious anæmia are so rare that some seem to doubt the authenticity of such cases. Here was a case in which the percentage quantity of hæmoglobin and the number of corpuscles were practically the same, showing that each corpuscle contained its right quantity of hæmoglobin. The disease, then, was one of diminution in number of corpuscles and corresponding increase in the proportionate amount of plasma. The hæmorrhages into the retinæ, from the gums and probably the kidney, combined to give a grave import to the disease; and the fit was, I think, attributable solely to anæmia. The rise in one month of the number of corpuscles and quantity of hæmoglobin to thrice the quantity under the administration of arsenic proves the enormous benefit derived from the drug.

Cheniston-gardens, W.

[1] Hunterian Lectures on the Anatomy of the Intestinal Canal and Peritoneum in Man: Brit. Med. Journal, Feb. 28th, 1885, p. 415.

[2] Guy's Hospital Reports, vol. xvi., 1870-71, p. 131.

AN ANATOMICO-PHYSIOLOGICAL CONTRIBUTION ON THE OSSICULA AUDITUS.

By DOCTOR P. C. LARSEN-UTKE.

WHILE investigating the subject of the anatomy of the organ of hearing I have alighted on some points upon which I cannot agree with the views of H. Helmholtz in his book, "Die Mechanik der Gehörknoeckelchen und des Trommelfells (Bonn, 1869)." With due regard to so eminent an authority, I at first thought I was mistaken; but as all further examinations yielded the same result, I could scarcely doubt the validity of my observations, of which the following is an account. My preparations have been examined by Dr. Med. Wilhelm Meyer of Copenhagen, who agrees with my view of the matter.

The first point concerns the ligamentum externum mallei. In his description of this ligament, Helmholtz says (p. 20): "Von diesen Bündeln [those, namely, which are inserted medially to the "crista colli mallei," and laterally to the "incisura Rivini"] ist das stärkste und am meisten gespannte das hinterste; die Richtung desselben geht verlängert auf die Spitze der Spina hin, und dieser Strang ist es hauptsächlich, der die Drehungsaxe des Hammers darstellt. Ich möchte deshalb diesen hintersten Strängen des Ligamentum externum den besonderen Namen Ligamentum mallei posticum beilegen, weil sie in der That in mechanischer Beziehung eine besondere Bedeutung haben." And further, page 22: "Denkt man sich die Richtung des

Ligamentum posticum durch den Hammer hindurch verlängert, so trifft die Verlängerung auf die mittleren stärksten Züge des Ligamentum anterius, die von der Spina tympanica major ausgehen. Diese beiden Faserzüge zusammen, die zwar durch den Körper des Hammers getrennt, doch in mechanischer Beziehung ein Band ausmachen, können wir das Axenband des Hammers nennen."

In opposition to the above quotation I have on all preparations which I have made found the parts so arranged that the hindermost strands of the ligamentum externum, in place of having their elongated axis running in the direction of the ligamentum anterius, generally alight on the medial wall of the cavitas tympani at a point lying within one millimetre either in front of or behind the processus cochleariformis. The hindermost strands of the ligamentum externum mallei (Helmholtz's ligamentum posticum) thus form an almost right angle with the ligamentum anterius, and cannot make part of the "Axenband," on which as a chief factor rests the theory of the movements of the malleus, as taught by Helmholtz.

The second point concerns the relation of the movements of the malleus to those of the incus, and through this to those of the stapes. About this Helmholtz says, page 36: "Das Verhältniss des Steigbügels zum Amboss ist so, dass wenn der Hammerstiel einwärts gezogen ist, der lange Fortsatz des Ambosses fest gegen das Knöpfchen des Steigbügels drückt, auch wenn das Kapselband zwischen beiden durchschnitten ist. Bewegt man den Hammerstiel nach aussen, soweit es die Hemmungsbänder des Hammers zulassen, so entfernt sich dagegen bei durchschnittenem Kapselbande der lange Fortsatz des Ambosses um $\frac{1}{4}$ bis $\frac{1}{2}$ millimètre vom Steigbügel. Drückt man bei dieser Stellung des Hammers den Ambosstiel wieder gegen den Steigbügel an, so bleibt er so stehen ohne zurückzuspringen. Es lösen sich hierbei die Sperrzähne des Hammerambossgelenks von einander, und es ist keine hinreichend grosse Kraft da, die den Amboss zurückzöge. Bei erhaltenem Ambossteigbügelgelenk bleibt natürlich die Spitze des Ambosstiels immer am Steigbügel haften; aber aus den eben beschriebenen Thatsachen folgt, dass bei herausgetriebenem Hammerstiel der Amboss keinen Zug auf Steigbügel ausübt, da ja selbst bei gelöstem Gelenk der Ambosstiel am Steigbügel stehen bleiben kann ohne mit dem Hammerstiel nach aussen gezogen zu werden." The point of disagreement between Helmholtz and me is, whether any lateral movement be communicated to the stapes through the incus, when the manubrium mallei is moving laterally. I have taken the precaution to convince myself that my preparations are made of persons who, while living, had sound hearing. Through these preparations I have come to the conviction that, when the manubrium mallei is moved laterally, the crus longum incudis not only follows this movement, but at the same time exercises such a traction on the stapes, that this also moves laterally. The truth of this observation may be proved in two ways.

1. On an os temporis the tegmen tympani is removed and the vestibulum laid open by chisel or saw, so that its tympanic wall, with the basis stapedis in its fenestra ovalis, is freely exposed. (*a*) If the caput mallei is cautiously but distinctly pressed laterally, the lower end of the crus longum incudis is seen to move medially and a little upwards. (*b*) If the caput mallei be pressed medially, the lower end of the crus longum incudis is seen to move laterally and a little downwards. When, during these movements of the crus longum incudis, we examine the basis stapedis from the vestibulum (it is best to use spectacles with magnifying glasses, so that both hands may be free for the manipulations of the preparation), a distinct movement of this is observable, most like a partial turning of the basis stapedis around an axis corresponding to the crista baseos stapedis. That this turning movement is not the only one which the basis stapedis is making is proved by the following experiment:—

2. The canalis semicircularis superior is opened in two points, about six millimetres distant, in the eminenta arcuata; through one of the openings the cannula of a fine syringe is introduced and the vestibulum filled with a coloured fluid. A capillary glass tube is fastened airtight in the other opening, the fluid driven through it, and the opening for the cannula closed. The meatus auditorius externus is cleaned, and after having convinced oneself that the membrana tympani is entire and tuba Eustachii open, Siegle's pneumatic funnel is applied air-tight in the meatus, and by alternately sucking and blowing, the air column in the meatus is attenuated and condensed. The movements communicated to the membrana tympani cannot reach the basis stapedis by any other way than through the ossicula, as with an open tuba Eustachii no attenuation or condensation of the air in the cavitas tympani is possible, and consequently the fenestra rotunda remains unaffected. By this experiment we observe (*a*) by the condensation a rise of the coloured fluid in the capillary tube, and (*b*) by the attenuation a fall of it; and this rise and fall can be attributed to nothing but respectively a medial and a lateral movement of the basis stapedis, thus a piston movement of the basis stapedis in the fenestra ovalis. While the first of the two points—namely, the direction of the hindermost strands of the ligamentum externum—does not seem to be of much practical interest, the same does not hold as to the second point. From the otiatric practice it is sufficiently known what striking effects the application of Siegle's instrument and the passive motion of the ossicula therewith attained often will have both on deafness and tinnitus. That this effect chiefly is attributable to the increased motion of the basis stapedis seems to me not only probable, but almost proved by my experiments; and when by means of Siegle's instrument it thus becomes possible not only to push the basis stapedis medially, as has hitherto been believed, but to give it a piston movement of much wider range, the possibility is increased for partly or wholly to restore that most important part of the sound-conducting apparatus to its normal function.

Copenhagen.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF GENERAL PARALYSIS OF THE INSANE, WITH "CROSSED REFLEXES."

BY F. H. W. COTTAM, M.R.C.S., L.R.C.P.,
ASSISTANT MEDICAL OFFICER, COUNTY ASYLUM, PRESTWICH; FORMERLY MEDICAL OFFICER, HAYDOCK LODGE, NEWTON-LE-WILLOWS.

E. McM——, aged fifty-five, was admitted into the asylum at Haydock Lodge on July 12th, 1890. The case was diagnosed as one of organic brain disease, probably general paralysis of the insane. He had a slow mental reaction; memory defective, for both recent and remote events; was easily confused, with failure of the power of attention; slept badly and often wandered about aimlessly at night; pupils unequal; facial and lingual tremors present, though not strongly marked; knee-jerks exaggerated, and there was a slight shuffle in his gait. For some months the only unusual point was an occasional syncopic attack, sometimes preceded by facial twitching; at other times he merely turned pale, became unconscious for a minute or two, and then recovered without any subsequent paralysis. About March 1st, 1891, he began to go down hill; general muscular tremors were noticed; his hand grasp became weak and tremulous, and as his gait became more unsteady, especially after a syncopic attack, he had to be put to bed. He passed fæces and urine involuntarily, his pupils were irregularly oval, and the left side of the face and neck were frequently flushed. About this time I found, in addition to the exaggerated knee-jerks, that tapping either patellar tendon was also associated with a contraction over the outer and upper part of the opposite thigh in front. This "crossing" occurred with both knee-jerks; but on tapping the left patellar tendon, the contraction on the right thigh was more marked than that on the left thigh, which followed tapping the right patellar tendon. That this crossing was not due to the "physical diffusion of vibration" (Ross) was, I think, shown by the fact that the contractions could be plainly felt as well as seen, and also that the crossed contractions, which could almost always be elicited, occurred *after* the ordinary reflex. Again, the plantar reflexes were faint, but were associated with the same phenomenon, the "crossed contractions" occurring in the same locality as in the case of those following the knee-jerks. "Front-tap contractions" could be obtained, and these also brought

out a precisely similar "crossed contraction." Ankle-clonus was faintly present, and there was not any crossing. Of the other reflexes, none of which showed any associated crossing, the interscapular, abdominal, and epigastric were absent; the gluteal brisk, cremasteric faint, and the pupillary sluggish. The patient became steadily worse. Towards the last the breathing frequently became of a Cheyne-Stokes character, though from time to time the respiration was regular and natural. The unilateral facial flushing was continually present. He died on June 5th, 1891. Unfortunately a post-mortem examination could not be obtained. Prevost found a similar case of crossed contraction. He regarded the crossing as "due to the physical diffusion of vibration," for he found that "section of all the nerves and posterior nerve roots of one limb of an animal does not abolish this crossed contraction." Luchsinger found in tritons and tortoises when decapitated that tickling one forelimb is frequently followed by a movement of the hind limb of the opposite side. In Landois and Stirling's "Text-book of Physiology," second edition, the following observation is also quoted: "If the region of the eye be irritated in a frog whose cerebrum is removed, there is frequently a reflex contraction in the hind limb of the opposite side." (Luchsinger, Langendorff.)

The point that occurs to me is this. There are two main theories regarding the *modus operandi* of the knee-jerk. In the one it is held to depend on a centre in the spinal cord; in the other it is maintained that the contraction of the quadriceps is due to local irritation of the muscle from sudden elongation. Now, the occurrence of "crossed reflexes" appears to me to be an additional argument in favour of the former opinion. For, if the contraction depends upon local muscular irritation, how are we to account for the contraction in the opposite limb? I think in this case that the possibility of any vibration need not be entertained, and that the only diffusion that occurred was from the one to the other side of the spinal cord itself.

Prestwich.

THE USE OF PURE BENZOLE IN WHOOPING-COUGH.

By W. ROBERTSON, M.D. GLASG.

AFTER some years' experience of the use of benzole in whooping-cough I can safely say that it effects better results than all the other remedies recognised as useful in this affection. In the adult and child it is of equal benefit. In an infant just now under treatment the attacks have been reduced from twenty or thirty in the night to two or three, and whereas when the treatment was begun evidences of bronchitis were present, now the chest is clear and the child able to be taken out of doors daily. All this improvement was brought about in less than ten days. I have administered benzole in whooping-cough, where convulsions and other complications were fast reducing all chances of recovery, with perfect success in a few days. In adults, where pertussis assumes often serious aspects, benzole has proved equally efficacious. Two minims in mucilage are sufficient for a child six months old, and five minims in mucilage on sugar or in capsule for adults. I am indebted to an article in the *Practitioner* of some years back for information regarding this treatment, and can heartily recommend a trial of it. Whenever the benzole odour is observed in the breath of the patient, then all anxiety as to the result may be allayed.

Newcastle-on-Tyne.

SUCCESSFUL CASE OF TAIT-PORRO'S OPERATION IN PRIVATE PRACTICE.

By COLIN G. CAMPBELL, M.R.C.S., &c.

IN the beginning of January this year Mrs. B. B—— consulted me with reference to her confinement, which she expected about April 2nd. Her first child had been delivered at full term by craniotomy early in 1888. During her second pregnancy I made a careful examination of the parts, finding flattened pelvis with marked sacral prominence. However, I thought it would be possible to deliver a living child at the end of the seventh month, as there appeared to be a conjugate diameter of three inches. Accordingly I induced labour in February, 1889. As, after waiting some hours, the head did not make any progress, I endeavoured to apply the long forceps; but, as in the first case, where it had been thoroughly tried by a medical neighbour as well as myself, I found it impossible to "lock" them. Eventually with the greatest difficulty I delivered a dead child by version. Each delivery was followed by a prolonged convalescence. Every alternative being placed before the patient and her husband, she decided to undergo the Tait-Porro's operation. She considered nothing could be worse than her previous experiences, and she was sincerely desirous of having a living child. Although in very humble circumstances (she lives in a three-room "back-to-back" cottage), she determinedly refused to go to any hospital. Being unable to see any advantage in waiting for the commencement of labour, but rather many disadvantages, I decided to attempt the operation a week before labour was due. Assisted by Mr. John Sutcliffe and Dr. Chamberlayne of Stalybridge, who administered methylene, I operated on March 25th. The incision was made from just below the umbilicus downwards for four inches. A difficulty was experienced in passing the soft rubber tube over the uterus (which reached the ensiform cartilage) through the small and low-down incision. This difficulty was, however, anticipated by Mr. Sutcliffe, at whose suggestion some electric light wire—to pass through the tube to stiffen it—was ready. This worked admirably, and at once the tube was passed down to the fundus. The uterus was then opened and the child, weighing 7 lb. 10 oz., delivered without difficulty. On tightening the tube round the fundus, previously to amputation, it unfortunately snapped. Another thicker one was, however, easily applied, cross-pins put through tube and pedicle, and all difficulty was over. Throughout, Mr. Lawson Tait's directions[1] were followed and no antiseptics were used. On the day after the operation the temperature rose to 103°, owing to flatulence, which caused painful dragging on the pins; this was promptly relieved by a dose of Epsom salts. On the eighth day a small abscess formed in the course of one of the sutures, which caused another rise. Beyond these there were no other bad symptoms, and the pedicle came away on the fifteenth day, leaving a ridiculously small wound. To prevent puckering, this was kept stretched and open three weeks longer, but practically all attendance ceased, and the patient was up and nursing her infant at the end of the fourth week. I believe this is the first case in which the operation has been attempted before the commencement of labour. If I had to do it again I would use a thick rubber tube with little lumen, as the entangling of air in the knots of the ordinary tubing leads to snapping. This tube, I think, should have the wire passed through it.

P.S.—Of course, the wire was withdrawn as soon as the tube was got into position.

Saddleworth, Yorks.

COLOTOMY FOR MALIGNANT DISEASE PERFORMED IN A COTTAGE; RECOVERY.

By S. ASHLEY SMITH, M.D. Q.U.I.,
AND
G. MARTIN FOX, L.R.C.P. LOND.

P. A——, aged forty-seven, collier, a pauper patient residing at Portobello, near Willenhall, was first seen by Mr. Fox on Monday, July 6th. The following is the history: The patient had been failing in health for eighteen months or more, and had been suffering from alternate constipation and diarrhœa, with a considerable amount of pain. For the twenty weeks immediately preceding the above date he had been treated at a large public institution for dyspepsia without the serious nature of his ailment having been discovered, although almost complete obstruction had set in for twelve or fourteen days. On examination the abdomen was found very much distended and exceedingly painful on pressure; pulse weak, anxious expression of countenance, and sickness. Aperients and enemata were tried without avail. On digital examination per rectum a hard scirrhous mass was discovered, completely blocking up the gut at a distance of about four inches from the anus. On the following day, the patient's general condition being much worse, and stercoraceous vomiting having set in, Dr. Ashley Smith was asked to see him. The patient being most anxious to have something done to relieve him, after consultation it was determined to perform colotomy, as giving him the only chance for prolonging life, and this

[1] Brit. Med. Jour., March 22nd, 1890.

in spite of the facts that the man was too ill to bear removal to a hospital, and that his surroundings were exceedingly unfavourable for the successful performance of an operation of so grave a character. A table was improvised from an old door, supported at one end on the window-sill and at the other on a rickety table. The patient took chloroform well. The oblique incision, as suggested by Mr. Bryant, was made, and after a little careful dissection the bowel was discovered, and the operation concluded in the ordinary way. A considerable amount of liquid fæces escaped as soon as the bowel was opened and continued to do so for the following two days. The man rallied well and made an uninterrupted recovery without a single unfavourable symptom appearing. The wound from the commencement presented a healthy appearance, scarcely any suppuration having taken place; the sutures were allowed to cut their own way out. On July 23rd (fifteen days after the operation) the man was sitting-up downstairs, enjoying his meals and expressing himself as feeling better than he had done for some months. He is now able to go about, and does not experience much inconvenience from his artificial anus.

Willenhall.

HEMIPLEGIA FOLLOWING EMBOLISM.

BY T. GANN, M.R.C.S., L.R.C.P., L.S.A.

ON July 12th I was called in to M. R——, a married lady, aged fifty-two. I found her to be in a state of extreme collapse; pulse 120, feeble and intermittent; respiration 23, shallow and laboured; skin cold and moist. On auscultation a loud, high-pitched, musical murmur synchronous with the systole was audible over the aortic base; the second sound was feeble, but unaccompanied by any murmur. Whilst questioning the patient she suddenly fainted, and on regaining consciousness (which she did in three or four minutes) she was found to be suffering from right hemiplegia, accompanied by aphasia. The peculiarity of the murmur which I had first heard led me to again auscultate the heart, when I found that the systolic murmur had entirely disappeared. These symptoms led me to suspect that the murmur had been caused by some vegetation loosely attached to the aortic valve, and that its sudden cessation, together with the rapid onset of paralysis, were due to the detachment of the vegetation, and its lodgment in one of the cerebral arteries. The curious point in the case is the fact of my auscultating almost at the exact moment of the detachment of the embolus. The patient has remained in the same condition up to the present time, both the paralysis and aphasia being very complete.

Brynmawr, South Wales.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

TWO CASES OF CYST OF THE PANCREAS; OPERATION.

(Under the care of Mr. A. PEARCE GOULD.)

THE operative treatment of cysts of the pancreas is one of the most recent developments of abdominal surgery, and the examples of it are so limited in number that it is important to have them all recorded. When Mr. Jacobson read his paper on a case of pancreatic cyst under his care at Guy's Hospital at the last meeting of the Medical and Chirurgical Society,[1] Mr. Pearce Gould briefly referred to two cases that he had operated upon. Our readers will be interested to have a more detailed account of these cases, for the notes of which we are indebted to Dr. John Murray, medical registrar.

CASE I.—Annie S——, aged twenty-four, was admitted into the Middlesex Hospital on Jan. 27th, 1891. She had previously enjoyed good health, and there was no history of injury. At the age of seventeen she suffered from "an attack of inflammation in the abdomen," and was treated for gall-stones. At nineteen she was married, and has had three children. Each confinement is said to have been attended by an attack of gall-stones, and at the last confinement, three months ago, a stone is said to have been passed. The present illness began on Jan. 10th, 1891, with severe pain across the abdomen just above the umbilicus; the patient was very sick, and had to take to bed. Two or three days after this she had great pain in the left hypochondriac region, when for the first time she noticed a swelling about the size of her hand, which gradually increased. She was unable to take any food, and could only drink a little brandy and soda water. Being no better at the end of a fortnight she was advised to go into hospital. On admission the patient was thin, somewhat emaciated, and anæmic, with an expression as though in pain. She complained of a gnawing pain in the middle of the abdomen, especially whilst taking food, occasionally becoming severe, when it was accompanied by nausea. The abdominal walls were flaccid. In the left hypochondriac region was a slightly prominent, rounded swelling, extending from the margin of the ribs to one inch below the umbilicus in the middle line, and outwards into the loin; it was smooth, very tense, and very tender. It seemed to move slightly with deep inspiration. It could not be made to project into the loin. The percussion note was dull over the tumour, but tympanitic all around it. Pulsation was transmitted to the swelling from the aorta, but by pressing the tumour to one side the pulsation was lost. There was no enlargement of the liver. Urine, sp. gr. 1030, acid; no albumen or sugar; contained a quantity of phosphates. Temperature 98·2°; pulse 64.

Jan. 29th.—Patient did not sleep well; was in pain most of the night.

30th.—About 9 A.M. the swelling was thought to have increased in size, and became very painful. Hot fomentations were applied; the pain ceased, and the swelling seemed to diminish.

31st.—A consultation was held. The general opinion was that the nature of the tumour was doubtful, but that an exploratory operation was advisable. The following suggestions as to its nature were made—hydatid cyst, solid growth of pancreas, peri-renal sarcoma, tumour of omentum, and pancreatic cyst.

Feb. 4th.—Operation. The patient was anæsthetised. An incision two inches and a half long was made in the linea alba, beginning three inches above the umbilicus, and the abdomen opened. The incision in the abdominal wall was then enlarged upwards and downwards. The transverse colon and omentum were turned up over the lower part of the chest, being carefully covered with a hot boric sponge; the small intestine and mysentery were pressed into the right iliac fossa, and a cyst was then found lying behind the peritoneum in the position of the tail of the pancreas. A large vein lying across the most prominent part was divided between two ligatures. A trocar and cannula were now introduced into the cyst, and about two ounces of thick yellow fluid withdrawn. The puncture was enlarged, when the cyst was found to be lined by a very soft uneven tissue, and to have no defined cyst wall. The finger was then passed into the cyst and pushed towards the side below the left twelfth rib, and Mr. Sutton cut down on to Mr. Gould's finger; through this incision a large drainage-tube was drawn into the cyst. The anterior opening in the cyst was carefully sutured, the peritoneal cavity well irrigated with warm boracic solution, the transverse colon and omentum returned, and the abdominal wound sutured in the ordinary way with silkworm gut. The outer end of the tube was stitched to the sides of the lumbar incision. The wounds were dressed with boric charpie and sal alembroth wool. The following analysis of the contents of the cyst was kindly furnished by Dr. Sidney Martin: The fluid was slightly alkaline, highly albuminous, gave a copious precipitate on boiling and acidifying, and became slightly ropy with potash. Microscopically the opacity of the liquid was seen to be due to free oil globules, to large cells (leucocytes) undergoing fatty degeneration and disintegration, and to still larger cells, possibly epithelial. There were a few red corpuscles and numerous acicular crystals, possibly phosphatic.

[1] THE LANCET, June 13th, 1891.

5th.—Temperature at 12 midnight was 102°. At 2 A.M. patient was in great pain. One-sixth of a grain of morphia was administered hypodermically. There was no vomiting after the operation. Patient took a little soda-water and milk. Temperature 101·2°.

6th.—Had a better night. Patient vomited three times. Dressed. There was a slight purulent discharge from the tube.

7th.—Slept well; dressed. Very little discharge from the lumbar wound. The anterior wound was healing well. Abdomen much less distended.

8th.—Had a good night. Temperature 100°; pulse 90. Tongue clean; no sickness. Abdomen soft and flaccid. Took milk and beef-tea well.

9th.—Dressed. Anterior wound appeared to be healed. The discharge from the tube was very slight. Temperature 101·8°; pulse 115.

11th.—Dressed. The discharge was more abundant; was semi-purulent. The cyst was washed out with boracid acid solution and the tube shortened. Temperature 102°.

14th.—Had a bad night. Complained of pain just below the left breast. Had a short, troublesome cough. Temperature 103°; pulse 108; respiration 40. Two leeches were applied, which relieved the pain.

19th.—Only a few drops of pus now escaped at each dressing.

21st.—Patient better. Temperature 101·4°; pulse 96; respiration 28. Tube was shortened.

28th.—The tumour could not now be felt. The patient had lost all pain and tenderness, her cough was still troublesome. From that time the patient steadily improved. The tube was gradually shortened, and left out altogether on March 18th, as the cavity appeared to be closed.

March 23rd.—Wound was securely healed; there was no pain on pressure over the site of the tumour. Patient left the hospital entirely free from pain, and had improved very much since admission. The patient was seen again in May; she was then quite strong and robust.

CASE 2.—Ellen A——, aged thirty-nine, was admitted into the Middlesex Hospital on Sept. 15th, 1890, on account of a pancreatic fistula in the right semilunar line. Her history was as follows:—Patient was never very strong, but had had no serious illness, and there was no history of injury. In 1885 she first noticed a swelling in the right side of the abdomen, which increased slowly at first, but began to increase more rapidly in January, 1887. In August, 1886, she suffered from jaundice, which came on gradually. At the same time she complained of pain in the left hypochondriac region, but never very severe. The following November the jaundice disappeared and did not return. She first came under Mr. Gould's care in June, 1887; the patient was then rather thin, anæmic, not jaundiced. There was an obvious swelling behind the upper part of the right rectus abdominis muscle, which could be traced from the under part of the right costal arch to two fingers' breadth below the umbilicus; laterally for four inches to the right of the umbilicus and an inch and a half to the left. The swelling was round, smooth, of uniform tension, fluctuating; the percussion note was dull over the tumour, but tympanitic over the lower and inner margins. It was slightly movable laterally, and with respiration, free from pelvis, and could not be pushed into the loin. The flanks were quite resonant, the abdominal wall was freely movable over the swelling, the transverse colon could be felt below its lower margin. Liver dulness normal; tongue clean; appetite good; bowels regular. Urine, sp. gr. 1015, acid; no albumen; no bile pigment.

June 16th, 1887.—The patient was anæsthetised, and the parts well washed with mercury solution. An incision two inches long was made vertically over the most prominent part of the tumour. On opening the abdomen the tumour was found to be covered by peritoneum. The gall-bladder was felt in the right flank, considerably elongated and pushed aside. The tumour was fixed to the spine, extending up under, but freely movable from, the liver, and was crossed in front by the first part of the duodenum. An aspirating needle was introduced, and a small quantity of fluid removed. What was believed to be the cyst was seized in a forceps, the sac was emptied, and the needle withdrawn. The tissue in the forceps was then divided, when it was found that the cyst had not been seized and had collapsed. An attempt to find it again having failed, a ligature was applied to the peritoneal puncture and the wound in the abdominal wall was closed. The fluid removed measured twenty ounces, was of a ropy consistence, sp. gr. 1002, alkaline, and gave a very distinct sugar reaction with starch and Fehling's solution. The gall-ducts were examined; no stone was detected. The patient quickly recovered from the operation; the temperature never rose above 99·2°.

On June 23rd the dressings were changed, the wound was healed, and the sutures were removed. The cyst had refilled, forming a swelling nearly if not quite as large as before. Patient was markedly jaundiced, and had been so for four days.

30th.—The old wound was opened up. The duodenum was exposed lying over the cyst, around which were adhesions, the result of the former operation. The peritoneum was dissected off the cyst, which was then aspirated, and raised in a forceps, thirty ounces of glutinous, reddish fluid being withdrawn. When the cyst was opened it was found to be lined by a soft, flocculent membrane, and to extend quite back to the spine. The cyst was then stitched to the edges of the wound, and a large drainage-tube inserted, and the wound was dressed with sal alembroth wool.

July 1st.—Jaundice much less. Patient was very comfortable, and free from pain. There was a copious discharge of thick, tenacious, blood-stained fluid.

6th.—Jaundice had quite disappeared. The discharge was still copious, so that the dressings had to be changed every day.

21st.—The cyst appeared to hold not more than one ounce, and discharged a small quantity of perfectly clear fluid. There was no fulness or swelling to be detected.

27th.—Patient was sent home, having learned to dress herself. A slight discharge still continuing.

In 1889 she became pregnant, and she was safely delivered at term without accident or complication.

When admitted to Middlesex Hospital in September, 1890, the discharge of a small quantity of glairy fluid still continued in spite of the sinus having been treated with various astringent and antiseptic lotions. Around the fistula the tissues were infiltrated with a very hard growth, slightly nodular and warty on the surface, which appeared to extend back to the spine. The glands in the right groin and right axilla were enlarged. It was decided not to make any attempt to deal by operation with this malignant growth, and she was sent home. In reply to an inquiry addressed to her medical attendant, Dr. Cockran of Coversham, the following message was received on June 9th, 1891:—"Still alive; cannot last long."

Remarks by Mr. PEARCE GOULD.—Very little by way of comment on these cases is required. As regards the etiology of the cysts, it does not appear that injury played any part in either. In the first case, I am inclined to regard the attack of inflammation in the abdomen as of more importance than the doubtful history of the passage of calculi. In the second case, the fact that the cyst continued unclosed for four years, in spite of free drainage and stimulation of its interior, is some evidence in support of the view that it was a true retention cyst. In position the two cysts were as far apart as possible, one occupying the right end and the other the left end of the pancreas. The latter position is decidedly uncommon. But in one pathological feature they exactly agreed, and illustrated a common condition in these cysts—the entire absence of any distinct limiting membrane or fibrous capsule of the cyst. It would have been wholly impossible to dissect out either of them without removal of gland tissue, and drainage was the only operative treatment applicable to them. The case of Annie S—— was a very satisfactory one, and in suitable cases the method then adopted seems to be worthy of further trial. In one other case—at the time unknown to me—a pancreatic cyst has been drained through an incision in the loin. I should not advise the lumbar incision to be made primarily, as it does not afford the means of thoroughly exploring the tumour; but in any case in which the surgeon finds that, having opened the cyst from the front, its wall can be easily pushed out to the loin below the twelfth rib, I should be inclined to advise him to drain it through a counter-opening made there. Such an opening is behind the peritoneum, and the permanent adhesion of the left end of the pancreas to the abdominal wall is less likely to lead to any subsequent mischief than a similar adhesion between the pancreas and the front of the

abdominal wall, passing between the stomach and the transverse colon. The plan of exposing the cyst by turning up the colon and omentum I should not practise again; I did it experimentally, but found that it offered no advantage over that more commonly pursued of dividing the great omentum above the transverse colon. Case 1 made an excellent recovery, interrupted only by an attack of bronchitis. The severe pain from which she suffered before operation never returned, and it must be attributed to some effect of the tense cyst, possibly to its pressure upon branches of the solar plexus. In Case 2 (the earlier one in point of time) the second operation was but a repetition of what I hoped, but failed, to do at first. The result, although for the time hopeful, proved disastrous in two ways—the establishment of a permanent pancreatic fistula, and the occurrence of a malignant growth around this fistula. In another case of the kind I should not unite the cyst to the skin, but should drain it through the peritoneal cavity, so as to have a sinus between the skin and the secreting membrane rather than a direct continuity of the two. In addition to the evidence afforded by the cases recorded by Senn and others, in which this plan has been followed, there is much to be gathered from experience in other cases of communication between the skin and mucous and secreting membranes, which shows that the direct union of the cyst to the skin is likely to be followed by permanence of the resulting fistula.

LEEDS GENERAL INFIRMARY.

NOTES OF A CASE OF SYMMETRICAL GANGRENE OF THE FEET; REMARKS.

(Under the care of Mr. W. H. BROWN.)

BEYOND the case related by Mr. Begg of Dundee, we have not been able to find any record of gangrene of the nature here described. Raynaud's disease is, so far as we have seen, always associated with some lesion of the spinal cord. Pathological inquiry has up to the present not offered any explanation of spontaneous symmetrical gangrene. Clinically, examples appear to be but few, and practically the question of treatment of such condition seems to be an open one.

J. D——, aged fifty, was admitted into the General Infirmary on November 12th, 1890, suffering from symmetrical gangrene of the feet which extended up to the line of the mid-tarsal articulation. The history of the case was as follows:—The patient (a hawker) had always enjoyed good health, had led a fairly regular and temperate life, and had never met with any accident. For many years he had from time to time suffered from cold feet. This fact was only elicited long after his admission to the infirmary, and was probably the result of a "leading" question. Ten weeks prior to his admission he was seized with violent and persistent diarrhœa, accompanied with abdominal "cramps" and surface lividity (English cholera). His medical attendant describes the illness as being of a very severe type and followed by a condition of collapse which continued for two or three days. During the time he complained very much of pain in both feet, and whilst the rest of his body had lost its livid hue, it was noticed that the skin over the anterior half of both feet remained discoloured and cold. The pain became very severe, the patient needing full doses of opium to obtain any rest. Six weeks later a line of demarcation formed, and almost at the same time the pain lessened. Four weeks later he was brought to the infirmary.

On admission the patient was a fairly healthy-looking man, and, considering the length of time he had been in bed and the suffering he had undergone, in good condition. The foot now presented the following appearance: The granulating surface at the juncture of the living and dead tissue was of an unusually brilliant pink colour; the discharge was somewhat offensive; the urine, sp. gr. 1024, acid, contained neither sugar nor albumen; the various reflexes were natural; the heart sounds were normal and the vessels healthy (both anterior and posterior tibials could be felt at the ankle); the appetite was good; there was little or no pain, and the patient slept well without narcotic. The temperature rose each night to 100° or 101° F., falling each morning to 98° or 99°. There was no history of syphilis, and no scar could be discovered. For the next few weeks the condition remained practically unchanged, the process of separation being very slow. The discharge had by this time become sweet and the temperature normal. The right foot was amputated on Feb. 2nd, 1891—the ordinary incision for a "Syme" being slightly altered to meet the requirements of the case—when the bones of the tarsus were found to be softened and infiltrated with pus, the cancellous tissues being in some instances replaced by softened, cheesy material. There was a good deal of oozing from the posterior flap—more than ordinary. As the stump healed rapidly and without causing any constitutional disturbance, the left foot was removed in a similar manner, and this, though taking longer to close, resulted in a firm stump. The patient was discharged four weeks after the second amputation.

Remarks by Mr. BROWN.—I have purposely omitted anything like a detailed account of the progress of the case, as no event of any clinical importance occurred after the second amputation. In ordinary senile gangrene, waiting till the parts have separated or amputation far above the seat of disease has been, and is, the line followed out by the majority of surgeons. In the present case, when the gangrene was in every respect save one like an ordinary case of senile gangrene, I neither waited for separation nor amputated above the disease. If one may base a line of treatment upon a single case, I think the result justifies the procedure, for the patient was saved many weeks' of waiting, and further, only suffered the loss of those parts already destroyed by disease. I have to thank Mr. Dixon, my dresser, for his attention to the case.

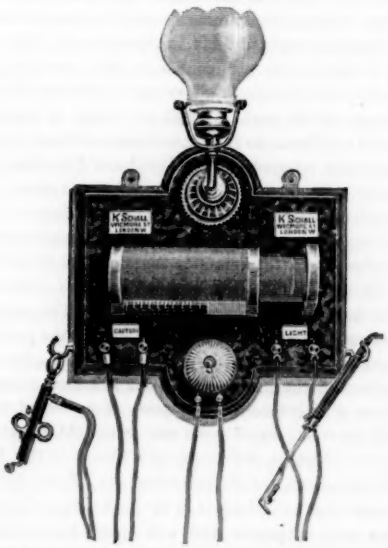
New Invention.

AN ELECTRIC TRANSFORMER FOR SURGICAL, MEDICAL, AND DENTAL PURPOSES.

THE rapidly increasing popularity of the electric light renders it very desirable that some means should be available for adapting the public supply of electricity to the various requirements of medicine, surgery, and dentistry. All those who employ batteries are aware of the constant attention required to keep them in good order, while most surgeons have, no doubt, at times experienced annoyance from their failure to supply current when required. The transformer I have designed, an engraving of which appears below, will, I hope, be found to supply the want required; by its means current can be converted from either the alternating or continuous system to almost any purpose required. In addition, it possesses advantages over batteries, whether primary or secondary, in that no waste occurs when it is not in use, the cost of a single application is probably reduced to one-tenth, and no attention whatever is required to keep it in order.

In the engraving three pairs of terminals are seen. One pair is arranged for supplying current to the electric cautery; the second pair illuminates a surgical incandescent lamp; while the third pair supplies "faradaic" shocks. So that, in one machine, the surgeon has at his command electricity for any of these three purposes. An incandescent lamp of 8 c.p. is placed at the upper part of the instrument, and indicates by its light when current is passing into the transformer. The conversion of the electricity takes place by induction between coils of insulated wire placed in close proximity to one another. Two of these coils are plainly visible, an inner and an outer; the inner or primary coil, projecting about one-third of its length, contains an iron core, and slides with it in and out of the outer or secondary coil. This latter is composed of several distinct circuits of various thicknesses and lengths of wire, according to the intensity and quantity of current required. The primary coil is of high resistance, and through it the current supplied to the installation, usually at 100 volts, passes. The strength of the currents induced in the secondary coils varies according to the depth at which the primary coil is inserted into them, being strongest when it is completely enclosed, and weakest when fully withdrawn. An index with pointer is

attached, to indicate the relative positions of the coils, as previously ascertained, for any particular purpose. This arrangement for regulating the strength of the current is economical as well as convenient, since the current absorbed by the primary coil is more or less proportional to that taken up by the secondaries. For the purposes of the cautery a maximum current of 20 ampères at an E.M.F. of 6 volts, and a minimum current of 2 ampères at ½ volt, can be supplied, according to its size and the degree of heat required. In the same way the current for giving shocks varies between a slight sensation and one that can be hardly tolerated; while the current for a surgical lamp, laryngeal or other, can be varied in like manner to suit any of the ordinary lamps in use. With regard to the current for giving "faradaic" shocks, it may be as well to mention that it varies slightly in character from that supplied by the ordinary medical coil; the interruptions are more rapid, the E.M.F. is about the same, while the current is greater in quantity. It will be



of interest to note whether this periodic increase combined with a larger current will in any way alter the therapeutic value of the shocks. To meet the case of the continuous current supply—a system adopted by some companies—an interrupter is introduced into the circuit of the primary coil: it occupies the place of the indicating lamp, which then becomes unnecessary. The interrupter is of specially strong make, and is designed to vibrate very rapidly in order to insure a sufficient number of impulses to produce steady currents in the secondary coils. The converter for dental purposes supplies current for the dental mallet, motor, and surgical lamp; as its appearance is the same and its construction very similar to that given above, it is unnecessary to do more than mention its uses. Mr. Schall of 55, Wigmore-street, W., is the maker of these machines, and my best acknowledgments are due to him for the skilful and energetic part he has taken in their production.

ARNOLD B. WOAKES, M.R.C.S., L.R.C.P. LOND.,
Surgeon to the London Throat Hospital.

THE HOME FOR SICK CHILDREN, COLD ASH.—The benefits bestowed, and the success of this Home, which was founded by Miss Bowditch in 1866, have rendered an additional block of buildings necessary, notwithstanding that the institution has been twice already enlarged. Last week Miss Kitty Ricardo, daughter of Major Ricardo, in the presence of a large assembly, performed the ceremony of laying the corner-stone of the new buildings, which will be erected on a most eligible site, and provide accommodation for more patients and also nurses.

HOLMES v. THE SCOTTISH LIFE ASSURANCE COMPANY.

To the Editors of THE LANCET.

SIRS,—The case lately tried at Derby respecting a claim against an insurance office on an accidental death policy clearly shows that there ought to be a medical tribunal before which such cases should come, seeing that the points at issue are purely medical, and cannot be rightly appreciated by the bar or by the jury. The above-named office requires that the insurer should declare that he is not the subject of any disease, and that he should renew his policy year by year on this condition. In the present case the insurer had been treated for two or three years for a stomach complaint, and had consulted several medical men in London and in the country. His case had variously been called dyspepsia, ulcer of the stomach, and malignant disease. Two months before his death he fell on the frozen pavement. He got up and walked to his place of business, stayed there a short time, called on his doctor, who told him to go home and he would visit him on the following day. The doctor then found he had bruised his hip, and that the pulse was quicker than usual. Four days after this he vomited some coffee-ground matter, having had the day before some melæna. The coffee ground vomiting he had had before, as stated in a letter from an eminent medical man; but this was not received in evidence, as the writer himself was not present. After three weeks all signs of blood had ceased, but the patient continued to grow weaker, took no food, became emaciated, and died exhausted eight weeks after his fall. The friends naturally attributed the coffee-ground vomiting and the subsequent death to the fall; the medical man took the same view, and it was supported by the surgeon who was called in as consultant. These two gentlemen certified that the patient died of exhaustion due to loss of blood occasioned by a fall on the pavement. After the certificate was written, a post-mortem examination was made, no injury to the stomach was found, but a cancerous growth (as suspected by many) at the pylorus. In spite of this discovery, these gentlemen held to their certificate, and in explanation of this declared at the trial that the cancer of the stomach had nothing to do with the patient's symptoms or death, but that this was due to the exhaustion arising from the hæmorrhage, which had ceased five weeks before death, and which hæmorrhage was not due to the cancer, but to the fall. On being asked how the hæmorrhage was produced, seeing that no injury was found, the following remarkable explanation was given—that the fall produced a shock to the nervous system, that this hastened the heart's action and so increased the force of the circulation generally, that this secondarily affected the portal circulation in the liver, and that the blood, not being able to discharge itself, found relief by the rupture of vessels in the stomach. This was the theory on the one side, and on the other side was the statement that the man died from cancer, seeing that he not only had all the usual symptoms, but it was proved to exist by post-mortem examination.

If the two propositions had been brought before a medical assembly, it would no doubt have soon been disposed of. As it was, although the judge was a very careful, painstaking man, and evidently wishing to be fair, he placed the two propositions before the jury as if they were of equal value, and left it to them to choose which they would have, the judge himself adding that the shock theory seemed reasonable, and as for there being no previous experience of such a case, there was no finality in knowledge. Whether they were better pleased with this theory than with plain facts I cannot say, but they soon pronounced in favour of the plaintiff; but in all probability they felt themselves unable to decide between two medical propositions, and so did not worry their brains about them, but gave the plaintiff the benefit of the doubt. I feel myself that they ought never to have been asked to decide that which a medical jury would be alone able to understand. The consequence is a great miscarriage of justice.

I am, Sirs, your obedient servant,
Grosvenor-street, W., July 27th, 1891. SAMUEL WILKS.

THE LANCET.

LONDON: SATURDAY, AUGUST 8, 1891.

BEFORE the International Congress of Hygiene and Demography enters upon its arduous labours we would express our satisfaction at being able to greet so many distinguished visitors. At the same time, while offering to our foreign guests the expression of our heartiest welcome, we feel that, as a nation, we owe them some apology. Economical, political, and other causes which it is not now our purpose to investigate, have combined to place England in the foremost position among nations, in so far as the practical application and realisation of the principles of hygiene are concerned. In England, for many years past, we have recognised the utility of congresses as a means of developing the knowledge of sanitary laws and of impressing upon the authorities, local and national, the need of better legislation for the preservation of public health. Considering how advanced and progressive England has been in such matters, the feeling that *noblesse oblige* should have led us to take the initiative in bringing about international as well as national congresses of hygiene. It is not to us, however, but to Belgium, that belongs the honour of this initiative. The first International Congress of Hygiene was held at Brussels in 1876. To the French appertains the honour of converting this congress into a permanent institution meeting every two years. The proposal was made at Brussels by Dr. LIONVILLE, who represented the French Government, and was rendered practicable by the energy, the skill, and organising faculties of the French Society of Public Medicine and Professional Hygiene. To this body was due the great success of the Congress of 1878, and the precedent then established of holding these congresses every two years. Nor should we omit to mention, in connexion with this Society, the names of Dr. A. J. MARTIN and Dr. HENRI NAPIAS, who acted as secretaries. Their task has not been limited to the organisation of the two great French congresses held in 1878 and 1889, but they have very materially helped to render successful the congresses meeting in other countries. Sanitary reformers from all parts of the world have trusted to their obliging help when visiting Paris, and have been, through their intermediary, placed in connexion with one another. In thus organising and bringing together internationally sanitary reformers of all countries, England has heretofore lent but little help. The number of Englishmen who attended the international congresses of hygiene was very small; indeed, while all the Continent was active in the cause, it took England ten years to awake to a due sense of the importance of the movement and the necessity of taking a leading part. We trust that the foreign delegates, by the reception they are about to receive, will be led to acknowledge that if we, as a nation, are late in the field, something at least has now been done to atone for lost time. We also trust that the foreign delegates will give THE LANCET the credit of having from the very first appreciated the utility of their work. In 1876 we despatched a correspondent to Brussels to describe in these columns the first of the congresses and the exhibition of hygiene connected with the Congress. In 1878 our Paris correspondent was a member of the organising committee, and did not fail to point out in THE LANCET the importance of the second congress. We have to plead guilty of having missed the third congress held at Turin in 1880, but at all the subsequent congresses we were represented by a special correspondent, who took active part in the debates, was, on several occasions, selected as the spokesman of the entire English delegation, and sent us the longest and fullest descriptions published by any English journal. Our columns have ever been open to communications tending to promote the cause of international hygiene, nor have we hesitated to severely blame and criticise our fellow countrymen for their lukewarmness. This publicity and this criticism have now borne fruit. Despite certain defects in management, the forthcoming Congress, we are confident, will prove a great success, and should entirely efface the bad effect of English shortcomings in the past. It will no longer be said that England is indifferent to the cause of international hygiene, which sanitary reformers of the Continent have been promoting with so much energy during the last fifteen years. How great has been their work, and how eager our desire to help, will, we hope, be rendered manifest by the pamphlet we are about to issue and to present to the members of the Congress. This will consist of a reprint of all the articles we published describing the preceding congresses. The pamphlet will give some idea of what has been done in the past, and of our anxiety to assist in the good work. We offer it to the members of the Congress with our heartiest wishes for the success of their future endeavours. This record of the past will, we trust, be of some use to our old friends the continental delegates, and to our new friends in this international movement, the British delegates. For it must be noted, as a remarkable feature of the forthcoming Congress, that the only strangers who will meet at Burlington House are, with the exception of a score or two, all Englishmen. The continental delegates will know each other, having met before at previous congresses; and we shall witness the cheering spectacle of very old friends and colleagues meeting again. To the greater number of the English members only will our foreign visitors appear as strangers who have not been seen before. But this feeling will not, we are convinced, last long. The spirit of fraternity will soon develop itself, and we shall see in England realised yet once again the eloquent and prophetic words pronounced by the late Professor GUBLER, who, when presiding over the Paris Congress of 1878, addressed the foreign delegates, exclaiming:—"I call you colleagues, but I should say brothers, for where can that rare plant, the flower of fraternity, bloom and blossom better if not in our midst, and at a congress of health! Here we have no jealous rivalries, only a generous emulation for the attainment of that which is good. We wage war against all abuses, against all causes that bring about results injurious to our fellows, and with such principles the sentiment of fraternity will naturally dwell in our midst."

THE final Draft Charter of the new University for the London district was published *in extenso* in our last issue, and

we propose now to call attention to its chief clauses and their probable effect on medical education. The preamble states "that there exists at present in London an urgent demand for the extension of the benefits of University education, and for the encouragement of learning and research, and that it is expedient a University should be constituted in and for London for the purpose of providing and encouraging systematic teaching and methods of study, for the efficiency of which it should become responsible." In Clause 3 it is enacted "that the Council shall not allow a degree to be conferred on any student unless he shall have passed a course of study in a College in the University during such final portion, being not less than two years, of the period of study as may be determined by the Council, and shall have passed the final examination of the University in that course of study." The final clause defines the London district for the purposes of the University to be the "administrative county of London, including the county of the City of London." There is, therefore, here defined the character of the new University as a local teaching University for the London district, the conditions on which its degrees are to be obtained being a two-years' period of study in London and the passing of the final examination at the University itself. Graduates of other Universities may be admitted to equal degrees in this University, but no honorary degrees are to be given in Medicine. It is therefore clear that whatever regulations may eventually be laid down for London medical students who shall have obtained their qualifications prior to the foundation of the University, these conditions cannot be contravened. In framing their by-laws we should recommend the authorities to display a liberal spirit towards practitioners qualified in Medicine, Surgery, and Midwifery who have spent the whole or the final portion of their time in studying in London. Of course an examination, which should be eminently practical, must be insisted on. If the clauses in the Charter be interpreted liberally, many practitioners who now seek an M.D. degree at Durham or at St. Andrew's would be attracted to the new University, which would thus be materially strengthened at its very commencement. Clause 1 deals with the name, and though that of "Albert" is by many not considered a suitable one, mainly from sentimental considerations, it will be difficult to find another less objectionable. It follows the precedent of the Victoria University, and as the words "of London" are not to be included in the title, and as it must be free from any territorial misnomer, such as "Westminster," we question if a title to which less exception can be taken will be found. The LORD PRESIDENT intimated that the name might be changed by the Houses of Parliament whilst the Charter is before them; and if a happy inspiration should seize a member of the Legislature, and be accepted by his colleagues, we expect that no one would be better pleased than the promoters of the movement for a new University in and for London, to whom the question of naming their infant must have caused many anxious moments during the past seven years. King's and University Colleges are constituted Colleges of all Faculties in the University, and these Faculties are Arts, Science, Law, and Medicine, and such other Faculties as shall from time to time be determined by the Council. Degrees may be conferred on persons of both sexes; and not only are the nine medical schools of London (excluding those of King's and University Colleges, which are admitted as parts of those Colleges) constituted Colleges of Medicine in the University, but the London School of Medicine for Women comes in on the same footing. The Royal Colleges will therefore still remain the only examining bodies in London who exclude women from the opportunity of obtaining medical qualifications. Other Colleges, such as Bedford and Queen's Colleges, may be admitted into a given Faculty if the Council be satisfied that their existence will probably be permanent, and that they are under independent control, and possess a sufficient staff, buildings, and appliances, with adequate arrangements for teaching and study; but the ten Colleges of Medicine may apply at any time to be admitted as Colleges in other Faculties—e.g., Science—though they are not under independent control. Meanwhile provision is made in Clause 11 that the governing body of any College may designate any teacher doing professorial work or giving regular instruction as a member of the Faculty in which he is doing such work or giving such instruction. The clause "provided that no medical degree shall be conferred on any person who shall not previously have obtained a qualification for registration under the Medical Acts for the time being in force" remains; and we understand that a special Act of Parliament, which would obviously be strenuously opposed by most of the licensing corporations, will be necessary for any subsequent conversion of the academic distinction into a qualification to practise. The Royal Colleges having declined to enter into the new University on the terms laid down by the Lords of the Privy Council, the Council will be made up by six Crown nominees, six representatives of King's and University Colleges nominated by their councils, ten representatives of the London Colleges of Medicine, and sixteen members chosen by the four Faculties of Arts, Science, Law, and Medicine, with the Chancellor, and the High Steward (the Lord Mayor of London for the time being)—a total of forty, of whom fourteen, at least, will represent the medical interest. Although the medical veto has been dropped, it is obvious that no regulations are likely to be passed if opposed to the wishes of such a large proportional representation. If the Council of Legal Education and the Incorporated Law Society shall at any time *both* signify their desire for admission, they will each have power to nominate one member on the Council, and the number of members representing the Faculty of Law will be reduced from four to two. The Royal Colleges of Physicians and Surgeons are dealt with in a similar spirit. "In case they shall both hereafter signify to the Chancellor their desire to be represented upon the Council, the Council shall have power to provide for such representation, and for any modification of the constitution and number of the Council which may in that case be agreed upon by the Council and the said Royal Colleges; but so always that the number of members representing the said Royal Colleges and the above-named Colleges of Medicine shall not together exceed eleven." This clause seems to us to be an almost prohibitive one against a future entrance of the Royal Colleges into the new University, for it insists on *both* Colleges making a joint application and being satisfied with one representative unless the

Medical Colleges can be persuaded to withdraw some of their own members from the Council in favour of those nominated by the Royal Colleges. The fact that each Medical College is directly represented will not diminish the difficulty of deciding which of them should perform this "happy despatch," and withdraw from the Council, so as to permit the admission of the Royal Colleges. Moreover, a place or places on the Council may be assigned to the Society of Apothecaries. The Royal Colleges have steadily insisted on an entire control of the medical faculty. We cannot but think that a more moderate and reasonable position would have secured for them every influence in the new University that they could legitimately claim. However, the "parting of the waters" between the interests of the schools and of the Royal Colleges has now definitely taken place, and the issue must be left to the future. A Convocation is to come into existence after ten years, and will then have the power to elect the first, third, and fifth of the vacancies caused by the retirement of the Crown nominees and to elect future Chancellors. The Chancellor is to be appointed for life, but the members of Council are to hold office for five years only, although eligible for re-election or re-nomination. The system of election of senators for life, which has worked so unsatisfactorily in the existing University of London, is therefore carefully avoided in the present Charter. The Assemblies of Faculties are to consist of acting teachers mainly, and will elect sixteen representatives to the Council as well as the members of the Boards of Studies. The Boards of Studies will be deliberative bodies, and will represent their opinions on any subject to the Council. The Council will have the sole executive power, but of the forty members twenty-six will be teachers—viz., sixteen Faculty representatives and the ten representatives from the Colleges of Medicine,—even if there be none nominated by the Crown or by King's and University Colleges. If not therefore, as some say, a Teaching University, it is most clearly and decidedly a "teachers' university," for the final control is obviously in their hands. "All examinations of members of the University shall be conducted by such members of the Assemblies of the Faculties, and such other persons to be called 'external' examiners, as the Council may from time to time appoint. One external examiner at least shall be appointed by the Council for each subject." We presume that by this is meant the plan of examination now pursued at the Victoria University, but the wording of the clause is indefinite, and we must wait for the specific regulations which will be laid down in the by-laws before we can fairly criticise its intended working. The University has also taken power to grant certificates of proficiency to students attending University Extension Lectures, and to pupils in any schools it may examine. Finally, it is provided "that it shall not be lawful for the University in any case, by any statute or otherwise, to adopt or impose on any person any test whatsoever of religious belief or profession."

IT cannot truthfully be affirmed that the meeting of Fellows and Members of the Royal College of Surgeons of England, held on Thursday, July 30th, "for the purpose of receiving a report from the Council on the present position of affairs in relation to the proposed Albert University," contributed materially to the solution of the intricate and difficult problem which they were summoned to consider. The real questions before the meeting were, Would acceptance of representation on the Council of the Albert University be for the advantage of the College of Surgeons, and would it assist in remedying what is known in London as the medical grievance? About these questions very little was said by the speakers who supported or opposed the resolutions submitted to the Fellows and Members, nor was any light thrown upon the best method of removing the disabilities under which the students at the London medical schools lie compared with those who attach themselves to the Scotch and provincial Universities. These surely are not party questions, and *primâ facie* have nothing to do with the claims of Fellows and Members to a larger share in the management of the College, or with rivalries between the metropolis and the provinces; but such is the ill-effect of the exclusion of Fellows and Members from their proper influence over the affairs of the important institution of which they constitute the body corporate, and of the unreformed state of the College and its Council, that it is absolutely impossible to prevent side issues from being introduced, and from disturbing the dispassionate and candid consideration of questions of a neutral tint. On such neutral questions it is only natural that there should be differences of opinion between those who are accustomed to act together and are thoroughly united in regard to the reform of the constitution of the College, and there does not appear to be any reason for endeavouring to conceal the fact. Truth must never be sacrificed to party exigencies, and it is the province of the journalist to place matters in their proper light, and to explain the hidden causes of events which the unaided bystander might fail correctly to interpret. If any unprejudiced and disinterested observer at the general meeting had been asked for his opinion on the resolution adopted by 15 to 3 in an assembly of about fifty Fellows and Members, what would have been his conclusions? This resolution was compounded of the original motion proposed by Mr. LAWSON TAIT and a resolution moved by Dr. W. J. COLLINS, which at first was naturally regarded as an amendment by the President, but ultimately accepted as a rider, and tacked on to Mr. TAIT'S motion by the insertion of an ingenious adhesive clause. In its completed form the resolution ran as follows:—"That in the opinion of this meeting it would be inconsistent with the position and destructive of the functions of the Royal College of Surgeons of England to constitute itself any part of a University for London, but that in the event of the acceptance of a position in the proposed University by the Royal College of Surgeons of England, this meeting is of opinion that in view of the disabilities under which the body politic of the College labours in comparison with other similar bodies, the representation accorded to the Council in the governing body of the new University is to be regarded as adequate."

Would it not have been a natural conclusion that the resolution was the resultant of conflicting forces, Mr. TAIT'S motion being diametrically opposed to the Council taking any part in the new University scheme, and that of Dr.

COLLINS favouring the acceptance by the Council on behalf of the College of representation on the Council of the University? What was the actual opinion of the meeting cannot with certainty be predicated, but it would probably be correct to say that those who were present might have been divided into nearly equal groups: First, those who had not formed their views or who did not understand the subject; secondly, those who were in favour of the College standing entirely aloof from the Albert University; and thirdly, those who considered that it would be in the interest both of the College and the London medical student if the Council of the College accepted representation on the Council of the Albert University offered to it by the Privy Council and still left open for it (though, as we point out in another column, under conditions which are now almost prohibitive) in the Draft Charter published in our columns last week. We ourselves have expressed the opinion that this last course is the desirable one, for as the Council of the College has espoused the cause of the London medical students, and is sincerely desirous of enabling them to obtain medical degrees on equitable terms, it seems to us that this end would be promoted better by the College being represented on the Council of the University, and acting in concert with the medical schools for this purpose, than by leaving everything to rival medical colleges, and standing proudly aloof in the haughty spirit of *aut Cæsar, aut nullus*. With great respect for the opinions of Mr. LAWSON TAIT, we think that he is mistaken in his train of reasoning. Evidently Mr. TAIT spoke mainly from a provincial platform when he contended that if the College formed any part of an exclusively metropolitan University it would cease to be what it had become—a Royal College of Surgeons of England—and return to its original condition of a College of Surgeons of London. He fears that if the grievance of the London medical students is remedied in this manner, they will be better off than the medical students in the provinces; but if the metropolitan grievance is remedied by the metropolitan University and a provincial grievance is left, there is no reason why it should not be remedied by a Midland University, and, if the College accepts representation on the Council of one University, there would be no reason for its declining representation, if offered to it, on another.

One effect the resolution as amended by Dr. COLLINS will have. It frees the hands of the Council, for it virtually leaves it to the Council of the College to decide whether it shall accept a position in the proposed University or not. Mr. TAIT'S motion by itself was opposed to the pretensions of the Royal Colleges, which claimed to constitute the Medical Faculty of the University and to possess entire control over the medical curriculum and examinations, even including the appointment of examiners, which in the Draft Charter is assigned to the Council. Dr. COLLINS'S rider tacitly assumes the contingency of the Council accepting representation, though it does not, as originally intended, go so far as to affirm the expediency of doing so. This point has never been properly or fully debated by any of the bodies interested in the subject since the Privy Council gave its decision. It has not been discussed in the Comitia of the Royal College of Physicians, by the Fellows of the Royal College of Surgeons, by the medical schools, or by the Fellows' Association, and it certainly was not discussed at the general meeting of Fellows and Members of the College of Surgeons on July 30th. The fact is, there is a cleavage of opinion in all these bodies on this subject, and it would be very desirable if it could be debated publicly, and with a freedom from all disturbing influences. We fear, however, that it is too late for this, as the Albert University is now practically constituted.

IN his Presidential address, delivered before the Psychological Section of the British Medical Association, Dr. MAURY DEAS gave a very sensible and critical summary of the practical working of the Lunacy Act of 1890 during the year in which it has been in operation. He holds that the difficult work of consolidating the numerous, complex, and conflicting lunacy statutes has, on the whole, been admirably carried out, and he thinks that the only wise and dignified course is to endeavour to carry out the provisions of the new Act loyally, and to minimise, rather than exaggerate, any difficulties that may arise. He classifies the new enactments into—(1) Those which seem good and useful, (2) those which seem unnecessary or useless, and (3) those which seem positively hurtful and objectionable. Dealing first with the good and useful provisions, reference is made to Section 330 of the Act, which gives protection to medical men against actions at law for carrying out their duties under the Act if they have acted in good faith and with reasonable care. Dr. DEAS is of opinion that the *onus probandi*, in cases where actions are laid, should rest with the plaintiff and not with the defendant, the former having to show that the latter had not acted in good faith and with reasonable care. There can be no doubt that this would be likely to reduce the number of frivolous and vexatious actions which are so costly to medical men. One of the shortest and most valuable sections of the Act is stated to be number 241, under which "a local authority may provide asylum accommodation for pauper and private patients, together or in separate asylums, and may provide separate asylums for idiots or patients suffering from any particular class of mental disorder." In the useful class is Section 271, which gives full powers to asylum committees to receive private patients without any restriction as to terms and accommodation. The sections regulating and restricting the reception of insane persons into workhouses are regarded as a decided advance on former provisions in this respect; and we are told that with reference to the mischief done by the detention of recent cases of insanity in workhouses, the only completely satisfactory provision would be that all paupers deemed to be lunatic and proper persons to be placed under treatment should be sent direct to an asylum in the first instance. To meet other difficulties, it is suggested that the benefit of "urgency orders" should be extended to pauper as well as to private patients, in whose case this provision is stated to be an unqualified boon, except for the extra responsibility in the matter of future proceedings thrown upon the medical superintendent, and for the absence of safeguarding provisions as to discharge under certain circumstances. The increased facilities to persons desirous of

placing themselves voluntarily under treatment are regarded as a valuable improvement.

The unnecessary or useless enactments include some of the vital changes in the new procedure, such as the necessity for a reception order by a justice in the case of private patients, the reports after reception, and the duration of reception orders. Much, no doubt, can be urged from a medical superintendent's standpoint against changes of this sort, but legislators have acted in the belief that there appeared to be occasion for some modification of exisiting practice in this direction.

The third category—including enactments that seem positively hurtful and objectionable—deals with several sections of the Act. Section 8, as to the right of a patient to be examined by a justice, is held to be distinctly objectionable in several respects. It is calculated to have an injurious and unsettling effect upon the patient. Dr. DEAS gives very cogent reasons in support of this opinion, and, although we do not believe it likely that the clause will very frequently be acted upon, we think that the provisions made in it are not such as would effect any real protection to the patient's interests or produce any soothing or beneficial influence upon the minds of patients who might be disposed to demand an examination by a justice.

We also agree with Dr. DEAS in much that he urges against Sections 47 and 49, dealing with the power of any one commissioner to authorise visits of relatives or other persons to patients, totally irrespective of many circumstances that might be urged against the desirability of such visits. Other objectionable features are referred to under this head, such as the notices to be posted as to correspondence, the power of receiving more than one "single patient" in a house, the provisions as to mechanical restraint, and the power given to commissioners to make rules. We are bound to say that the impeachments made by Dr. DEAS against the practical working of the Act are drawn up in language at once of decision and of moderation; for he has not sought to magnify grievances, nor has he had recourse to the use of that extravagant phraseology of denunciation which is too often found to defeat its own purpose. Indeed, Dr. DEAS himself expresses a belief that much of the friction and difficulty that have arisen will disappear with more experience in carrying out the new provisions. That there have been frictions, difficulties, and inconveniences there is no doubt; and the new Lunacy Bill which has now just become law is sufficient evidence that the Lord Chancellor recognises this fact. The provisions of this new Act will, we hope, be found to rectify or favourably modify some of the objectionable features so forcibly dealt with by Dr. DEAS in his address.

Dr. DEAS has the courage of his opinions, based upon an extensive and intelligent experience, and he furnishes forth his Utopia in lunacy matters under nine angles of reform. If we might venture to summarise these, we would say that they present an ideal which is the embodiment of a maximum confidence (on the part of the public) in medical opinion with the minimum amount of necessary legal restriction. The two angles of reform, as given by Dr. DEAS, to which we would attach the most real importance, are the first—which holds that "insanity and its treatment ought to form an integral part of medical education and of medical examination"—and the fourth, which postulates "the appointment of district medical inspectors and of official certifiers, who should act in consultation with the medical attendant."

Annotations.

"Ne quid nimis."

THE REDUCTION IN THE ENGLISH BIRTH-RATE.

IT is pointed out in the Preliminary Census Report that the decline in the rate of growth of the English population in the recent intercensal period was due to the decrease of the excess of births over deaths, and the increase of the excess of emigration over immigration, acting in combination. It was further shown that the decline in the rate of natural increase was entirely due to "a persistent decline in the birth-rate," as the mean annual death-rate in the ten years 1881–90 was lower than in any previous decennium. The Registrar-General's Quarterly Return for the second quarter of this year, which has just been issued, affords the means for considering the nature and extent of this recent persistent decline in the English birth-rate. In the early days of civil registration the registration of births in this country was undoubtedly defective to a considerable extent. It would, therefore, be unsafe to assume that the recorded birth-rate for the ten years 1841–50 correctly represents the true birth-rate for that period. In the three following intercensal periods the recorded birth-rate rose successively to 34·1 in 1851–60 to 35·2 in 1861–70, and to 35·4 in 1871–80. It should be pointed out, however, that although the mean birth-rate in the ten years 1871–80 exceeded that recorded in any previous decennium, the birth-rate has really steadily declined since 1876, when it reached its maximum, 36·3 per 1000. Since 1876 the decline in the birth-rate has been remarkably persistent; it has declined each year without a break from 36·3 in 1876 to 30·3 in 1890. The mean rate in the ten years 1881–90 fell to 32·5 from 35·4 in the preceding ten years, and was slightly below the recorded rate in 1841–50, when it is known that no inconsiderable proportion of the births escaped registration. It is obvious that the decline of the birth-rate was mainly due to the marked depression of the marriage-rate during the recent intercensal period. The proportion of persons married, which had been successively 16·9, 16·6, and 16·2 per 1000 in the three preceding decennia, further fell to 14·9 in the ten years 1881–90, and was very considerably lower than in any previous ten years since civil registration was established. The English marriage-rate reached its maximum (17·6 per 1000) in 1873, and has never since nearly touched so high a figure; the lowest rate in any single year was 14·1 in 1886, since which it has fluctuated between this figure and 15·5, but this is the highest rate recorded since 1877. The mean age at marriage has been steadily rising in recent years, which in great measure accounts for the reduction of the marriage-rate; and as the rate of decline in the birth-rate in the last compared with the preceding intercensal period was only very slightly greater than the decline in the marriage-rate, it may be safely assumed that this decline of the natural increase of population in England and Wales is almost entirely due to the decrease of the marriage-rate, which may be attributed to increase of age at marriage rather than to abstention from marriage.

HOLMES v. SCOTTISH LIFE ASSURANCE COMPANY.

THE above case, referred to in Dr. Wilks' letter, p. 293, was recently tried at the Derby Assizes before Mr. Justice Vaughan Williams. The beneficiares of the deceased claimed £1000 from the Assurance Company on the ground that Mr. Holmes' death resulted from injury. There seems to have been no dispute about the terms of the policy, so the only matter left for the jury to decide was relative to the cause of death. From the printed reports of the trial there can be no doubt that Mr. Holmes had for a long time been suffering from a wasting malady, having for its chief symptom defective and disordered digestion. By one of the medical attendants of the deceased it was suspected that the cause of this was malignant disease. Indeed we do not see how a medical man could help having such a theory forcibly presented to his mind. In November, 1890, Mr. Holmes slipped on the pavement, complained of feeling ill, and consulted two doctors. Three days after the accident he had melæna, and on the fourth day he vomited some coffee-ground matter. In about three weeks all traces of hæmorrhage had disappeared, but deceased declined in strength and eventually died about two months from the date of the fall. The Assurance Company requested a post-mortem examination. Cancer was found encircling the pyloric end of the stomach, but it does not seem to have ulcerated. On the part of the plaintiff it was propounded that the death arose solely from the effects of the accident, whilst the defendant company contended it was an ordinary case of exhaustion from gastric cancer. One medical man asserted that the hæmorrhage did not hasten the fatal issue. The truth or falsity of this proposition would be determined by the amount of blood extravasated, which is not given in the report before us. The medical witnesses called for the plaintiff alleged that the fall caused the death by inducing a feeble action of the heart; that this resulted in portal congestion, and that the overstrained venous capillaries of the stomach burst in consequence—a theory, as it seems to us, extremely fanciful, not to say absurd. We do not hesitate to say that a jury of physicians and pathologists would at once discard such a view in face of the fact that a common and sufficient cause of the hæmorrhage and the death was at the post-mortem patent to all. We have repeatedly urged that, in cases where purely medical questions have to be tried, whether in civil or criminal practice, it is highly desirable that a medical man should sit as assessor to the Judge. The decisions of juries where doctors disagree must at the best be more or less affected by other influences than scientific knowledge of an abstruse and difficult subject. The above case confirms us in the belief previously held, and increases the regret we have before expressed, that so much should be left as it were to chance in determining issues of fortune, liberty, and life.

AN IMPERATIVE DUTY.

WE regret to feel impelled to recur to a topic raised in a letter from Dr. J. G. Glover in our issue of July 18th; but it seems to us that it would be contrary to the right conduct of professional life to allow the subject to remain in the unsatisfactory position which it now occupies. We should have been spared this painful necessity had Dr. H. J. Hardwicke hastened to correct a misstatement of his position with regard to his alleged discovery in the public journal in which it appeared. His disclaimer in our columns (July 11th) was, as Dr. Glover pointed out, quite inadequate, for it would not reach the wide circle of sufferers in whom the premature announcement of his "cure for lupus and cancer" must have raised many a false hope of relief. Dr. Hardwicke has been for some time a member of our profession, so that it makes it all the more inscrutable why he should have failed to see that there was only one course open to him so soon as the paragraph in question went the round of the press. We should like to be assured that the blame of the non-appearance of any refutation of the statement in the daily journal in which the announcement first appeared does not rest upon his shoulders; for we cannot conceive of any member of an honourable profession tacitly allowing the propagation of so mischievous a statement concerning his work. Dr. Glover asked us for our opinion on the matter, and, at the risk of seeming to be discourteous to him, we delayed giving it in the hope and expectation that Dr. Hardwicke would recognise where his duty plainly lay. We have waited in vain for any such assurance from him, and, although we fear it is impossible to undo the mischief that has been caused by this unfortunate and untimely publication, we still trust that he will do all in his power to prevent its further spread. The golden rule for all discoverers in medical science is to do nothing by way of encouraging publicity for their researches until these have been submitted to and tested by their professional brethren. When, as in this case, publicity is given without the sanction of the one immediately concerned, he should not hesitate for a moment in securing a refutation of such statements.

DISINFECTION OF DENTAL INSTRUMENTS.

THERE is no department of surgery, writes Dr. Miller of Berlin, in which the demand for antiseptic procedure is more urgent than in dentistry, for the reason that all the operations are performed upon septic or infected tissues and there are no means of rendering the territory to be operated upon aseptic except by the use of antiseptics of the highest character. The necessity of absolute cleanliness on the part of the dentist, of his hands as well as his instruments, diapers, drinking glasses, rubber dam, in short, of everything which comes in contact with the patient's mouth, is universally recognised, and yet it is not difficult to find persons engaged in the practice of dentistry who neglect this matter to an extent that is revolting to the taste and dangerous to the health. In regard to the possibility of transmission of disease, such as pyemia or syphilis, by dental instruments, there have been so many cases recorded in dental and medical journals that the matter should be familiar to every practitioner of dentistry. With reference to diapers, Dr. Miller found that boiling in water for ten minutes completely sterilised them, and no development of bacteria could be produced in agar-agar. The rubber dam should be soaked in a 5 per cent. solution of carbolic acid for at least half an hour, or boiled for a few minutes, but preferably a new piece should be used for each case. The ideal antiseptic for instruments is a liquid which acts immediately upon bacteria without in any way injuring the instruments themselves. There is a vast difference between sterilising liquids and sterilising solid bodies, and an antiseptic which sterilises a drop of water almost instantaneously may require a quarter of an hour to sterilise a solid body, particularly when it is coated with a layer of dried albuminous material, as dental instruments are liable to be. The length of time necessary to sterilise a body by a chemical agent depends greatly upon the character of the body, as well as upon the character of the matter with which it is coated. Porous bodies, as may be readily understood, are more difficult to sterilise than non-porous ones; also the drier and more insoluble the material with which the body is coated, and the more liable it is to form inert compounds with the antiseptic, the more difficult it will be to sterilise. It is consequently, above all things, desirable to employ the antiseptic in a form in which the

infectious matter is soluble, and this in the vast majority of cases is in an aqueous solution. Dr. Miller has performed about a thousand experiments, and gives in a tabular form the results obtained with the most noticeable agents. Of carbolic acid, he says the impression exists amongst a great many that it is but necessary to dip the instrument in the solution for a fraction of a minute in order to render it completely sterile, but thorough sterilisation with a 5 per cent. solution cannot be counted upon with moderate certainty in less than an hour, and a large burr, such as is used with the dental engine, after two hours' exposure was still found to contain living germs. Trichlorphenol gave slightly better results. Bichloride of mercury in a 5 per cent. aqueous solution was found to be by far the most prompt in its action of all the substances tested, but its powerful action upon steel interferes very seriously with its constant use for sterilising instruments made of this material. Peroxide of hydrogen came next to carbolic acid, but was considerably inferior to it. The essential oils utterly failed to produce the desired action. Boiling water, especially when a 2 per cent. solution of carbonate of soda is added, is, in Dr. Miller's opinion, far superior to all other means for sterilising; it will accomplish in two minutes as much as the chemical agents ordinarily used will in half an hour.

TETANUS IN CUBA.

ACCORDING to a paper by Dr. Manzini published in *El Progreso Médico*, tetanus in general, and more especially trismus neonatorum, must be exceedingly common in Cuba. Indeed, he states that of the cases of childbirth of which he has statistics no less than 1 in every 10 of the children become affected by trismus, nearly all, as may be supposed, succumbing to it. Dr. Plá, another Cuban practitioner writing in the *Crónica Médico-Quirurgica*, gives an account of some experiments made with a wooden splinter which had been extracted from a wound which had produced tetanus in a child. Pieces of this splinter inserted beneath the skin of rats invariably caused their death from tetanus, except when the fragment of wood was carefully disinfected by washing in perchloride of mercury.

EPSOM COLLEGE: THE ANSTIE MEMORIAL FUND.

THERE are few names in British medicine round which there gathers a sweeter aroma than that of Dr. Francis Edmund Anstie, the gloom of whose premature death seventeen years since is still felt by his friends and contemporaries. Much of genius and all that was genial were abruptly removed when Dr. Anstie died. His friends thought to honour his name by securing the education of his son. The following paragraph from the annual report of Epsom College will be read with pathetic interest by a large circle of readers. Their sympathies will go forth to those who have well husbanded the fund so cheerfully contributed, and in their fresh grief have liberally enlarged a scholarship designed by Mr. Anstie, that will perpetuate two honoured names for all time, and be fruitful of good and of help to those who need encouragement:—"On the occasion of the premature death of the late Dr. Francis Edmund Anstie from a post-mortem wound in September, 1874, a fund was raised by his numerous friends as a tribute to his memory, and with the object of assisting in the education of his children, especially of his only son. The amount raised was paid over unconditionally to his estate, and has since been applied, as occasion required, to the purpose for which it was intended. Last year the son, William Charles Anstie, died, at the age of twenty-six, shortly after obtaining his diploma of L.R.C.P. and M.R.C.S. The Anstie Memorial Fund had been mainly employed in defraying the necessary expenses of his educational career, and there still remained at his death a substantial sum unexpended. It was Mr. Anstie's desire that this residue should be applied in founding a scholarship. His mother and sole surviving sister, as his heirs, wish to make up the amount to a sum which will provide £40 a year, clear income, free of income tax, and have notified their desire to transfer securities of a competent amount to be applied, in accordance with his expressed wish, in founding a scholarship at Epsom College. This scholarship, in memory of Francis Edmund Anstie, M.D., and William Charles Anstie, will be tenable for four years at Oxford or Cambridge."

PERIPHERAL NEURITIS IN DIABETES.

IN a communication by Auché, of which a summary is given in the *Neurologisches Centralblatt*, the author refers to the fact that although there is strong clinical evidence of the existence of peripheral neuritis among diabetics, no absolute proof that the condition giving rise to symptoms of neuritis is really one of inflammation of the peripheral nerves has as yet been brought forward. This, however, is the view which the writer adopts, and which he proceeds to prove by means of his own observations and those of others, embracing almost every form of disturbance of the nervous system occurring in diabetics. He also cites his histological observations, showing widespread inflammatory processes in the peripheral nerves. In the summary of his views of the subject the author states that the upper extremities are attacked with less frequency than the lower, that the affection is mostly bilateral, but may be one-sided, that the functions of the bladder and rectum are unimpaired, and that atrophy and the reaction of degeneration are present in the affected muscles. Sensory disturbances, consisting of pains, hyperæsthesia, paræsthesia, or anæsthesia, frequently precede motor troubles, but may accompany them, or may occur alone. Vaso-motor troubles, such as hyperidrosis, œdema, shiny skin, and ecchymosis, may also be present as well as trophic disturbances, such as perforating abscesses, local atrophy of skin, falling off of nails, &c. The loss of knee-jerk which occurs in some cases of diabetes is to be ascribed to neuritis. The author in conclusion refers to the generally accepted opinion that the nervous symptoms are not at all proportional to the quantity of sugar in the urine. Some researches which he made as to the effect of injections of saccharine solution in the vicinity of the sciatic nerve led him to conclude that sugar was not the active agent in setting up changes in nerve; but that such changes are more probably to be ascribed to the presence in the blood of acetone or of some as yet undescribed chemical substance.

COMPULSORY NOTIFICATION OF INFECTIOUS DISEASE.

DR. SEATON has given prominence in a recent report to the Surrey County Council to the fact that the Godstone rural and the Malden urban sanitary authorities are the only ones in the county which have not yet decided to adopt the system of compulsory notification of infectious diseases; and, having regard to the difficulty of securing sufficient means of isolation for such cases, he has advised that the power of providing it should be delegated to the County Councils. A committee, having reported on the subject, pointed out the difficulties which would attend any such scheme. First, there was the delay which the necessary legislation would involve; secondly, the scheme would still need hospitals for nearly every district separately, on account, amongst other things, of the objection to carrying the infectious sick through one district into another; and thirdly, the districts would, after all, have to work the hospitals themselves. Some of these

objections, if indeed they all be such, are not very important. Perhaps the most formidable one is the hindrance to existing work of the sort that would result from any prospect of altered legislation. But the Council supported their medical officer of health, and passed a resolution to the effect "that the Local Government Board be informed that in the opinion of this Council it is expedient that powers should be conferred on councils to erect and maintain isolation hospitals, and, by agreement, to take over and carry on existing hospitals in their counties, and that the Local Government Board be requested to apply to Parliament for the necessary legislation as early as possible." Unless any such legislation precedes the promised measure as to district councils which has already been some years on the way, the provision of isolation hospitals in Surrey will, we fear, hardly be expedited by the step taken. Croydon, a separate council in the same county, is moving in the direction of procuring a hospital, but it is already confronted with difficulties from neighbouring sanitary districts.

THE TREATMENT OF RANULA.

DR. B. HERNANDEZ BRIZ, of the General Hospital, Madrid, writing in *La Andalucia Médica* on Ranula in Children, mentions a case of one of these tumours which was as large as a hen's egg, and which he cured in a very simple way. Intending to empty it, he inserted the needle of a common hypodermic syringe into it in order to employ aspiration. The contents were, however, evidently too thick to come through such a fine tube. He then filled the syringe with a mixture of ten parts each of tincture of iodine and water, with one part of iodide of potassium, and injected fifteen minims of this mixture. Three days later the tumour was decidedly smaller. A second similar injection was given, and when the child was next seen three days afterwards the ranula had almost disappeared. Several months have now elapsed, and there is no sign of the return of the tumour. Of course the injection of iodine into ranulæ is far from novel, a paper on the subject having appeared in THE LANCET by Dr. Coates in 1866.

YELLOW FEVER ARRANGEMENTS IN BRAZIL.

ACCORDING to the *Rio News* patients suffering from yellow fever during the epidemic that reigned in Rio de Janeiro this spring had a bad time of it, at all events, if they were compelled to go to the hospital of St. Sebastian, which was erected for the purpose, but which is in such an insanitary locality and is so badly managed, that the mortality has been 50 per cent. Complaints have been very numerous, and some time ago the editor of the Government newspaper, who inspected it by special invitation, wrote: "A third of the *employés* are constantly ill. At the present time the director, Dr. Maurillo de Abreu, a nurse, four servants, and the person in charge of the clothing, are all ill of paludinous fevers. The greater part of the patients reach the hospital after 10 A.M.—that is, when the rays of the sun are most intense and the decomposition of the garbage on the beach is most rapid. The street cars employed in carrying the patients have room for only four persons; yet it frequently happens that they carry eight, ten, or twelve, one above the other, some dying, others in the first period of the disease, and not unfrequently among them the corpse of a patient who has died on the way." There was no resident medical man in the hospital, two sixth-year students being in charge during the absence of the visiting physician. "When the patients arrive, a large dose of castor oil is given them; those in the second stage of the disease receive a dose of iodine and iron, of which thirty-three prescriptions had been filled on the morning of the day before yesterday. For those who are worse the medicine given is a strong dose of caffeine. ..... It is impossible to imagine the repugnant, horrible, and incredible state of filth and negligence. On their arrival the patients are stripped of their clothing, which is replaced by the hospital shirts. The clothing removed from them, soiled and stained with vomit, is thrown under the beds, where it remains for hours before being taken away for the purpose of disinfection. As there are no slippers for the patients in the hospital, the director allows the shoes and soiled stockings that the patients were wearing to remain on the floor at the bedside. Near these, in most instances, are the iron cups from which the patients drink water, and the small cuspidors into which they vomit—on the floor the medicine bottles, with or without medicine, urinals, soiled and blood-stained cloths, all this exhaling an intolerable stench and endangering the lives of the unfortunates that are taken to the hospital. From time to time patients in delirium rise from their beds. Sallow and cadaverous, nearly always entirely without clothing, they wave their skeleton arms in the air, allowing them to drop on the two nearest beds." Since the yellow fever epidemic has subsided this hospital has been utilised for small-pox cases. Two American engineers with yellow fever were, however, sent there by mistake and very quickly died. The *Rio News* does not hesitate to style this hospital the "St. Sebastian death-trap."

EXPERIMENTS IN GUNSHOT WOUNDS.

THE army surgeons who have been attending the course of operations under the direction of Professor Kocher of Berne have just been studying at Thoune the destructive powers of the new Swiss rifle. In their presence have been practised several series of rifle shots, at ranges of from 60 to 600 metres, with bullets proportionately varying in velocity. Among the objects fired at were materials of various kinds, including osseous structures and pieces of wood filled with liquid, in order to take note, by way of analogy, of the effects of the bullet on the living subject. These experiments have amply confirmed what has long been practically admitted, that at high velocities the bullet discharged from small bore firearms produces effects analogous to those of an explosive projectile.

THE POLICE REPORT.

THE report annually issued by the Commissioner of Police for the metropolis is a document of singular interest, and it will not fail on the present occasion to sustain its established character in this respect. Upon the whole, London presents, from the point of view of Scotland Yard, a highly satisfactory aspect. Criminality is steadily diminishing, and the pursuit of crime would seem to be becoming increasingly difficult, for the proportion of apprehensions effected to crimes reported shows a steady growth. These are very substantial grounds of satisfaction, which we are glad to think that the metropolis shares with the country at large. It is less pleasant to read that since the year 1887 the number of apprehensions for drunkenness has increased, and not only in absolute numbers, but in proportion also to the population. Indeed, the increase in this proportion is sufficiently remarkable to demand investigation. In 1887 the number of such apprehensions was less than four in the 1000; in 1890 it was upwards of five and a quarter. It is, of course, obvious to remark that a little relaxation or increase of zeal on the part of the police in dealing with this particular offence would readily produce a marked impression upon the statistics, but we fear that the true explanation is not to be sought in that direction. Many indications concur in pointing to increased consumption of alcohol as a feature of the time, and it is one which

those who have the well-being of the community at heart will not fail to remark with much concern. Among the matters tabulated by Sir Edward Bradford are the street accidents of London, of which the police are able to take a more comprehensive view than any other authority. We are glad to understand from the present report that on the next and future occasions we may look for fuller details than have been vouchsafed in previous years, or than are contained in the present return. Though somewhat meagre, the Commissioner's figures show not only that the number of persons killed and injured in the streets of London is very large—that everybody would be prepared to expect—but also the directions in which danger chiefly lurks. The most fatal engine of destruction that plies in the London streets is the van, and next to it comes—*longo intervallo*—the nimble cab. Altogether the vehicular traffic of London demands in lives 140, and in maimings from 3000 to 6000 victims in the year. The year 1890, owing probably to the extreme inclemency of the weather during its winter months, has a very long tale of such casualties, the non-fatal accidents having totalled up to 5584. In noticing his report we gladly add our testimony to the high efficiency of the force over which Sir Edward Bradford presides.

"FORTY YEARS A DOCTOR."

WERE we to adopt a custom of the time and call for a census of medical opinion as to the life work of the profession in its personal and social aspects, we could not fail to interest and instruct many besides the practitioner whose immediate concern it is. No attempt of the kind has yet been made, but the effect is hardly different when a veteran in practice offers us the ripe fruits of his matured and critical observation. The age and the standing of Dr. Wm. W. Parker of Richmond, U.S.A., combine to fit him for this office, and his retrospect of half a lifetime, which was lately published under the above title, is not wanting in valuable suggestion. To the younger generation of practitioners, to whom it was addressed, it reveals, though in outline merely, a true picture of some of the more familiar perplexities, difficulties, pleasures, and regrets which belong to the round of their daily duty. Its proffered counsels are orthodox in their good taste and reasonableness. How to behave in emergencies, how to meet various losses, rebuffs, and discouragements, the wisdom of occasional consultation, the duty of truth and of judgment in speaking it, right and wrong methods in "seeking business," the satisfaction of doing good, and the claims of charity, are each considered in turn, and with more or less of explanatory detail. The author is evidently no pessimist. The conclusion with him is not vanity or vexation. He finds life to be worth living. Doubters may profitably note this as the experience of one who was "forty years a doctor."

ARTIFICIAL PRODUCTION OF DENTAL CARIES.

A PAPER on this subject was read, and illustrative specimens shown, by Mr. Sewell, at a recent meeting of the Odontological Society. After several trials it was found that bread mixed with saliva—the proportion is of little consequence—was the best mixture for the purpose. The teeth were immersed in the mixture in glass-stoppered bottles, and kept at a temperature of 35° to 37° C. The mixture rapidly becomes acid, and unless putrefaction to a great extent takes place, it remains acid for from three to five weeks. The acids present are lactic acid and acetic acid, about 5 per cent. of one and ·5 of the other. These were the relative proportions at the end of three weeks. Although a tooth wholly immersed is attacked all over at once, yet the disintegration was found to advance more rapidly through inherent flaws on mechanical fissures in the enamel. In such places the enamel became undermined, and extensive pigmentation took place. It was also found that the rapidity of the disintegrating changes in different teeth was governed by the structural qualities of the tissues. Ill-made enamel yielded much more rapidly than well-formed, and globular dentine was much more rapidly destroyed than tissue of better structure. The experiments, of which the foregoing is a brief summary, all go to confirm the view that caries has no connexion with vital action—that it simply depends upon the action of acids upon the dental tissues. These acids are probably the result of the action of organisms upon the saliva and food, and although they are determining factors in caries, its rapidity and its extensiveness are dependent upon the structure of the teeth, the quality of the enamel, and the presence or absence of flaws and fissures.

ISOLATION ARRANGEMENTS AT NOTTINGHAM.

THE opening of a new isolation hospital at Bagthorpe marks a fresh stage in the measures adopted by the Town Council of Nottingham for the prevention of the spread of infection. The original hospital was never adapted to the requirements of the borough. It was an emergency building hurriedly put up to meet a small-pox epidemic, and its utility was further hindered by certain poor-law associations which always clung to it. The new buildings have been put up, after considerable care and thought, from designs by Mr. Arthur Brown, the borough engineer, who had the advantage throughout of the advice of Dr. Whitelegge, the former borough medical officer of health.

THE BACILLUS COLI COMMUNIS.

DR. MUSCATELLO of Padua relates in a recent issue of the *Riforma Medica* a case of ischio-rectal abscess which was found to depend upon the presence of a little-known micro-organism, the bacillus coli communis. This bacillus appears always to affect the gastro-intestinal canal, and usually the colon or rectum. The other bacilli which are liable to be confounded with it are—(1) that of typhoid fever, which in this case was not to be thought of, both because there were no symptoms of typhoid fever, and because the culture in an agar medium containing "fuchsine" decolourised the substance entirely; (2) the bacillus pyogenes fœtidus of Passet, which in this case was excluded both by the behaviour of the culture in decolourising agar media containing fuchsine, and in disengaging bubbles of gas in gelatine media in the presence of glucose. The author, however, is quite prepared to admit that at present there is no proof that the bacillus coli and Passet's bacillus are not merely different morphological forms of the same organism, as has been supposed by some. On this point further researches are, as he suggests, necessary.

INSANITY AND TEA-DRINKING.

DURING the examination at the Waltham Abbey Petty Sessions of a woman who is charged with the wilful murder of her two children, a statement of some importance was made by the divisional surgeon of police, Dr. G. Fulcher, with reference to the habits of the prisoner. From some writing which was found on her, it was evident that the poor woman had meant to perish with her children, having been driven to this extremity by the belief that her children were hopelessly ill, and that she was being slighted by those from whom she had been accustomed to receive kindness. Dr. Fulcher found on examining her that, with the exception of a "weak heart," her physical condition was good, but she had been suffering for some time from headaches, palpitation, and sleeplessness. On being interro-

gated with regard to tea drinking, she said she had been in the habit of taking a large quantity, that she had given it up, but had recently resumed the habit in consequence of her troubles. Dr. Fulcher was of opinion that the prisoner was the subject of melancholia, and he expressed the belief that the taking of tea in excess tended to undermine the constitution. The powerful effect of alcohol in excess as a nerve poison is a matter of daily experience. That many of the ailments from which women suffer are at least aggravated if not excited by excessive indulgence in tea—not as an infusion, as it ought to be, but as a decoction—is equally well known; and although we are not prepared to admit that this habit would actually induce a condition of melancholia, there is little doubt that in a woman of a neurotic temperament, especially if her food were deficient in quantity and of poor quality, the use of this beverage in excess would be one of the factors in producing and perpetuating a condition of mental instability. It would be well if those to whom the frequent cup of tea from the pot—which has a permanent place at so many firesides, and has become almost a necessity, as they think—recognised fully the pernicious effects of this over-indulgence, effects which are only surpassed in importance by those of the occasional "drop of gin," of which so much is heard in the out-patient departments of our hospitals.

SMITH v. THE JUSTICES OF WARWICK.

IN this case, Mr. Harris, Q.C., on behalf of Mr. S. E. L. Smith, L.S.A., a registered medical practitioner, before the Divisional Court of the High Court of Justice, on Friday (31st ult.) moved for a rule *nisi* calling upon the justices to show cause why a writ of *certiorari* should not issue calling upon them to bring up three convictions under the Medical Act for the purpose of quashing them. Mr. Smith, being an L.S.A. Lond., was convicted of practising as a physician, surgeon, and doctor of medicine. Their lordships granted the rule *nisi*. Mr. Justice Denman stated that, in his opinion, it was a case in which the General Medical Council should be represented by their own counsel to argue the matter.

PREMATURE BALDNESS AND ITS CAUSES.

DR. TYSON'S recent contribution to our pages on premature baldness, its causes and prevention, expresses the views that there is an increasing prevalence of premature baldness in men as compared with women, and that the cause is that men habitually wear heavier and more complete covering than women. We are not aware of any facts being adduced beyond Dr. Tyson's own impressions that premature baldness is more prevalent than formerly, and even if it were so we should still dispute his argument that the cause lies in the different character of the headgear of men and women. The difference, such as it is, lies deeper—viz., in the natural differences in the constitution of men and women as regards hair growth, and one element among these probably is the greater thickness and superior vascularity of the scalp in women as compared with men. Certainly the positions in which baldness first develops—viz., the upper part of the occiput, the vertex, and the temples—are all situations where the scalp is thinner than elsewhere; the sides of the scalp, for instance, which rarely become denuded of hair in what may be termed normal baldness. Indeed, the bald man seeks here the means to conceal his loss somewhat, and, by parting his hair immediately over his ear, and training what can thus be separated over the vertex, hopes that what he regards as his defect may escape notice. Here we may remark that women lose their hair more frequently than is generally supposed, but are, from the arrangement and length of their coiffure, more successful than men in concealing it, and, if necessary, replacing the deficiency, while any such substitution by a man is like a town-crier proclaiming his loss to all beholders. Again, if the constant and more complete covering of the head were really the cause of baldness, it ought to be much more prevalent among the working classes, a large proportion of whom wear their hats or caps from morning till night; but few would venture to say that a larger proportion of them were bald than of those whose occupation employed the head more than the hands. Dr. Tyson's remarks on the general management of the hair seem to us sensible and sound as far as they go, but the addition of some form of antiseptic to the grease he recommends for occasional use would help materially in warding off that most frequent cause of baldness—seborrhœa capitis. When, however, the baldness exists as a hereditary failing, our efforts have to be confined to palliative treatment, directed towards delaying the process.

THE LEPROSY COMMISSION.

WE understand that the members of the Leprosy Commission in India have completed their labours and have prepared their draft report. The complete report is expected to be ready next month, and its conclusions cannot fail to be of the greatest value, not only as regards the vexed question of the contagiousness of the disease, but also for the practical recommendations which the Commission have to make for the diminution of leprosy in India. A Calcutta correspondent telegraphs that Dr. Barclay, a member of the Commission, has died at Simla from typhoid fever. Dr. Barclay had gained a high scientific reputation by his researches in cryptogamic botany and by his efforts to solve the problem of Indian wheat diseases. He was to have gone to Mysore next winter to study the coffee plant disease.

BIG GUN PRACTICE AND THE NERVOUS SYSTEM.

MR. STANHOPE the other day in the House of Commons adverted to certain proposed changes in the organisation of the Royal Artillery. Alluding to the vast strides made in the science of coast defence of late years, he said that the great improvements and variety of the guns now used, the introduction of complicated mountings, of range and position finders, of electricity, and of hydraulic power for working guns, required that the modern artilleryman should have a greatly improved training in order to fight them to the best advantage. However improbable it may at first sight appear, it nevertheless occurs to us that the revolution which has taken place in gunnery involves some curious points of physiological and psychological interest. All sudden and unexpected effort, and whatever partakes of the nature of surprise, induce a strain on the nervous and muscular systems. If a man has to do anything which calls forth unwonted effort of any kind, he either voluntarily prepares himself for it, or the system involuntarily adjusts itself accordingly. A sudden and unexpected noise, a very sudden and violent vibration, no less than the abrupt announcement of an unexpected calamity, cause a shock to the nervous system, a paralysis of inhibitory power, and a kind of disruptive discharge of nerve force, which, if frequently repeated, is apt to induce nerve tension followed by nervous exhaustion. Let us suppose, for example, that gun practice is being carried on in covered casemates at one of our forts or coast defences against an enemy's fleet, that the guns are being fired from overhead by electricity, so that the gunners, when once they have loaded and laid their guns,

do not know when any particular gun will be fired. The explosions would be quite unexpected, and, in point of time intervals, uncertain; two or more guns might be fired simultaneously, or follow one another in quick succession. Judging from experimental gun practice carried on in closed casemates, the noise is deafening, and the explosion gives rises to a violent vibration, the floor jumping with every shock of discharge so as to slightly lift a man—or at any rate appearing to do so—off his feet, and shaking iron standards in stone corridors and stairs out of their leaden sockets and fastenings. It is impossible to say how many guns would be actually fired in an hour, but the average interval at practice in a large battery may presumably be taken as a few minutes only—three or four, or even less. The effect produced on the nervous system by the *uncertainty*—that is the whole point—of when the guns, fired by electricity from a distance, would be discharged, would be very considerable, and prove exhausting to the gunners. We do not think that any such nervous effect had been experienced or observed before the introduction of electrical means and consequent uncertainty of the firing. It would be well worth putting the point we have raised to the test of actual experiment during gun practice carried on under the conditions and circumstances alluded to, for if it turned out that the strain on trained gunners after an hour or so of such practice rendered them incapable of, or decidedly reluctant to, man their guns, a knowledge of the fact would prove interesting now and practically useful hereafter.

ETIQUETTE AND THE UNQUALIFIED ASSISTANT.

AN inquest was necessitated lately in Hull under the following circumstances. Mrs. Fox sent for and employed Mr. E. W. H. Booker, the unqualified assistant of Mr. Healey. When Mr. Booker saw the case getting worse, he wished his principal to see her, but she was so satisfied with the unqualified assistant that she would not see anyone else. On the occurrence of her death, the certificate was signed by him, and, being irregular, an inquest was held. The principal defended his not seeing the patient on the ground that she was unwilling, and that to obtrude his services would have been undignified. In his evidence the husband of the deceased said that he believed Mr. Booker to be a qualified man. If he had not, he would have called in further assistance. It seems the duty of a medical man in such a position as Mr. Healey was in this case to make clear to the friends of the patient that the assistant is an unqualified one. The deputy coroner, Mr. Thorney, commented on the cost to the borough. But we see no reflection of these comments in the verdict, "Death from natural causes." The case was one of renal disease.

THE RAILWAY ACCIDENT AT ST. MANDÉ.

NOTWITHSTANDING that the St. Mandé railway collision appears to have been due rather to individual neglect than to any failure of tactical method, there are lessons of precaution to be learnt from it, the prompt recognition of which will be timely wisdom. Among other matters one cannot help regretting that the block system was not in this case applied with more scrupulous rigour. Had the movement of the second train been regulated by telegram, how different would have been the result. Happily no fault in signalling appears to have occurred. The assertion that the driver of the second engine could not see the danger lamps of the train at St. Mandé on account of a bend in the line is, however, a statement of serious importance. However controlled by the station signals, the existence of so sharp a bend at such a point must in itself be a constant source of danger. It may happen, indeed, that this difficulty is in some cases practically insuperable on account of topographical conditions, but the need of taking all possible steps to allow a clear view both up and down the line at any station is not therefore less obvious. The outbreak of fire added greatly to the horrors and fatality of the recent disaster. The question naturally suggests itself whether all, at least of the larger stations, might not at a reasonable cost be furnished with hose apparatus, to be used as a fire extinguisher in case of need. The precaution would hardly be superfluous for the protection of the station buildings themselves. It is instructive to note the experience of those who have at some time or other known and survived the experience of railway accident and the means by which their safety was assured. Some have noticed in time the coming catastrophe and have leapt from the train; others have escaped by lying down and so on. One suggestion which has emerged from the confusion of ideas in this latest instance is that the passenger, if aware that a collision is imminent, should raise the legs above the seat level. It is supposed, not without some reason, that much of the smashing and mutilation of limbs in such accidents is due to their being jammed between seat edges which are crushed together. If this be the case the change of position above mentioned, wherever possible, might go some way towards the preservation of life and limb.

THE INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

IT is expected that Her Majesty the Queen will invite to Osborne a number of the distinguished foreign visitors who will come to London next week for the Congress on Hygiene and Demography. The Prince of Wales will specially come to town on Monday, Aug. 10th, to preside at the opening meeting of the Congress. The Maharajah of Vizianagram has been appointed a Vice-president of the Congress.

RAILWAY SERVANTS' HOURS OF LABOUR

THE return which has just been issued from the Board of Trade concerning the hours of labour recorded on the various railways of the United Kingdom during the month of December last deals with a period which was in many respects exceptional, and an unfavourable example of their system of working. For one thing the weather of that month was unusually bad even for the season of the year, frost and fog being prevalent to an extent rarely experienced in the British isles. There was, of course, in addition to these difficulties, the pressure arising from the occurrence of the Christmas holidays and Christmas traffic. But while it is fair to bear these explanatory facts in mind, it is impossible even to glance at the return without perceiving that there is much to be explained. Again and again the eye is caught by figures which show, especially in the cases of the smaller railways, that every guard and brakesman, every engine driver and fireman, in the particular company's employ, has had to do duty for upwards of twelve hours at a stretch. This, however, does not by any means indicate the excessive character of the labour imposed upon individuals. The return of men employed for eighteen hours or more at a stretch is much more suggestive on this point, although the figures actually given are by no means easy to understand. A column, provided for showing the average time daily beyond twelve hours that these eighteen-hour labourers have been kept to work, has been filled up for the most part in an extremely unintelligent manner, such figures as fifteen, sixteen, and seventeen hours being entered. Probably the meaning is that the whole average duration of the long shift has been what is here set down as its excess over twelve hours. In any case it is shocking to read of men by the thousand working such hours; nor is the unpleasant impression greatly relieved by

the comment commonly made by the officials reporting to the Board of Trade that a certain amount of time is consumed, not in actual work, but in delays. It may be that delays do to some extent afford the opportunities of physical repose, but for an engine driver or a fireman in attendance upon his engine these opportunities are of the most meagre kind. But it should be clearly understood that the difference between work and rest is by no means the same as the difference between exertion and repose. So long as a man is merely standing at ease, but on the alert to resume his intermitted task, so long he is effectively, even though not actively, at work. Leisure only begins when it is assured, and the labourer can turn his back upon the scene of his toil with the comfortable sense that his time is his own and at his own disposal. It would be much more satisfactory to be able to gather from these official comments on the returns that the companies are alive to the importance of minimising this excessive labour than that they are ingenious in belittling it.

CHOLERA NEWS.

THE Egyptian Government are making considerable efforts to prevent the importation of cholera by means of pilgrims returning from Mecca and the holy places. In these the mortality has been considerable, and it has led to the provision of additional quarantine arrangements at El Tor on the Arabian shore of the Red Sea. The disease still prevails in certain portions of Upper Syria, but no large outbreak has been as yet heard of.

A TESTIMONY TO MEDICAL MISSIONS.

MRS. BISHOP (Miss Bird), the well-known lady traveller, in an interview with the committee of the Church Missionary Society, has given very strong expression to her sense of the value of missions, especially medical missions, in the East. She spoke of the great impression made on her of the need of more missions, and of strengthening those that exist. She was shocked at not finding a single missionary among 21,000,000 of Mahommedans and 11,000,000 of Buddhists on the central plateau of Asia. She praised highly the efforts of Mr. Sutton and his wife, of Bagdad, during the fearful visitation of cholera there. The 650 villages along the plain of Teheran were clamorous for medical aid. Here there was not a single Christian, even Armenian, and the people are fanatical—chiefly Kurds conquered by Persians.

PHYSIQUE AND PHTHISIS.

FROM some correspondence recently appearing in the *United Service Gazette* it would seem that Mr. Hambleton, in his zeal for the promotion of the physical development of the race, with the object, as he declares, of banishing pulmonary tuberculosis, has asked the Government for assistance in putting his system to a trial in the army. That the Prime Minister, to whom the appeal was directly made, should have courteously declined to institute such an inquiry, is only what might have been expected. But, like all enthusiasts, Mr. Hambleton feels aggrieved at the apparent neglect of what he considers to be a "discovery of immense importance," and sends the correspondence to our contemporary. We are glad to see a sensible commentary on this episode from one who writes to the above journal for Aug. 1st under the *nom de plume* of "Army Medical Reserve." He points out that Mr. Hambleton should first have his method properly submitted to the judgment of the profession through the ordinary professional channels, and we might suggest to him the propriety of urging one of our medical societies to appoint a committee for its investigation. At the same time we would venture to remind him that physical development *per se* has long been shown to be without prophylactic action in phthisis, for many of the most acute and fatal forms of that disease have occurred in those whose physique has been unexceptionable. As to the general advantages to health of systematic exercise of the respiratory organs there can be no question, and for his advocacy of this Mr. Hambleton is entitled to all credit; but when he goes so far as to say that in this direction he has discovered an infallible "cure" for consumption it is hard to follow him.

SIR THOMAS LONGMORE'S FAREWELL.

ON the occasion of the distribution of prizes at the Army Medical School at Netley on Thursday, July 30th, amid the general demonstrations of enthusiasm and respect on the part of those present, Sir Thomas Longmore performed his last act as Professor of Military Surgery. The occasion of parting with an esteemed teacher is always one tinged with sadness, and as such the proceedings at Netley on the prize day will be long remembered by those who took part in them. Dr. Farquharson, after he had distributed the prizes, and contrasted the position of army surgeons to-day with the state of things when he began his career, alluded in feeling terms to the occasion. In the presence of Sir Thomas Longmore, he said, it would ill become him to sound his praises. They knew his character, how high he stood in his profession, and what good work he had done. They would know better some day than they did now that the progress of military surgery for the last thirty years was more intimately associated with the name of Longmore than with any other. It would indeed be impossible to calculate how many lives the labours of such a man had saved in the general community. A better testimony to a worthy life devoted to the progress of his profession, and the welfare of his brother officers and of the army, it would be hard to find. Sir Joseph Fayrer made some kindly allusions to Sir Thomas Longmore, and expressed a hope that the school would continue to benefit from his sympathy. Sir Thomas Longmore, whose rising was the signal for long-continued cheering, after some remarks, said it only remained for him to utter once again that familiar word so often spoken among them, and so deep in its meaning—"Farewell." That Sir Thomas Longmore will enjoy in his retirement that sweet repose which follows a life well spent is a wish that will find an echo in the heart of all who knew him in his professional and private life.

HUMAN OR ANIMAL LYMPH?

TWO correspondents have recently written in favour of the general use of calf lymph in substitution for human lymph, and they urge in behalf of the former that it renders the puncture of the vesicle unnecessary, and that therefore the risks which arise from this puncture are avoided. This we admit at once is an advantage, but the question which has to be considered is whether this gain is not more than counterbalanced by a corresponding loss. The great objection to the general use of calf lymph is that it necessitates the employment of stored lymph in the majority of cases, and the general use of stored lymph means an increase in the number of cases in which complete or partial failure results, and therefore a considerable addition to the population which is imperfectly protected against small-pox. We believe that when consideration is had for the advantages and disadvantages which attend the use of the two lymphs, the verdict is undoubtedly in favour of direct arm-to-arm vaccination, and that the amount of risk which results from the puncture of the vesicles is trifling as compared with the risks of attack by small-pox, to which the badly vaccinated are exposed. Further, we do not believe that the use of calf lymph is as completely

free from disadvantage as our correspondents seem to think. Where due care is taken in arm-to-arm vaccination, there is great advantage in having a number of children from whom to select the vaccinifer. In animal vaccination the choice is much more limited, and hence there is less opportunity for maintaining the lymph in the condition which is best suited for vaccination. Moreover, the cultivation of lymph in the calf is difficult and expensive, and certainly, so far as the experience of this country teaches, there is no sufficient reason for the disturbance of the existing system for the purpose of bringing calf lymph into general use.

FOREIGN UNIVERSITY INTELLIGENCE.

Buenos Ayres.—Dr. José M. Penna has been appointed Professor of Medical Nosography, and Dr. Lagarde, Assistant Professor of Gynæcology.

Coimbra.—In consequence of the death of Dr. Lourenço de Almeida e Azevedo, Professor of Midwifery, Professor B. A. Serra Mirabeau has been appointed Dean and Director of the Medical Faculty.

Copenhagen.—Dr. Christian Gram has been appointed to the Chair of Pharmacology in succession to Dr. Warncke, deceased.

Kazan.—Dr. Jacoby, Professor of Hygiene, has been allowed the rank of Emeritus Professor.

Leipsic.—Drs. His and Romberg have been recognised as *privat-docenten* in Medicine, and Dr. Spalteholz as *privat-docent* in Anatomy.

Maryland University.—Dr. Randolph Winslow has been appointed Professor of Anatomy and of Clinical Surgery.

Missouri Medical College.—Dr. H. M. Whelpley has been appointed to the Professorship of Physiology and Histology.

Montpelier.—Dr. Forgue has been promoted to the Professorship of Operative Medicine, and Dr. True to the new Professorship of Clinical Ophthalmology.

Pennsylvania University.—Drs. G. A. Piersol, J. P. G. Griffith, and E. Martin have been appointed to the chairs of Anatomy, Children's Diseases, and Genito-Urinary Diseases respectively. Dr. John Deaver has been appointed Assistant Professor of Applied Anatomy.

Prague (Bohemian University).—The Professorial Senate has selected for the chair of Surgery (1) Professor Maydl of Vienna, and (2) Dr. Michl of Prague.

Prague (German University).—Dr. von Maschka having retired from the professorship of State Medicine, Dr. Paltauf of Vienna has been appointed to succeed him.

Tomsk.—Dr. Popoff of Kharkow has been appointed Extraordinary Professor of Forensic Medicine.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Theodor Hugenberger, late Director of the Lying-in Institution connected with the Moscow Foundling Hospital, and formerly Professor in the Helene Pavlovna Midwives' Institute in St. Petersburg. He was in his seventieth year, and had only retired for four years.—Dr. Linbomudroff, Chief Medical Officer of the Moscow Prison Hospital.—Dr. Alfred Vogt, Chief Medical Officer of the Golitsinski Hospital, Moscow.—Dr. Duponchel, Professor of Forensic Medicine in Toulouse.—Dr. L. Schenk, Body Physician to Prince Wilhelm.

DR. R. THORNE THORNE, F.R.S., has been elected Corresponding Member of the Royal Italian Society of Hygiene.

AT a congregation held at Cambridge on Thursday last, the degree of LL.D. *honoris causâ* was conferred upon the following gentlemen: Paul Brouardel, M.D., President of the Permanent International Committee on Hygiene, Dean of the Faculty of Medicine of Paris; C. T. von Inama-Sternegg, M.D., President of the Permanent International Committee on Demography, President of the Imperial Royal Statistical Central Commission, Vienna; F. von Esmarch, M.D., Professor in the University of Kiel; Alfonso Corradi, M.D., Professor in the Royal University of Pavia; J. von Fodor, M.D., Professor in the University of Buda-Pesth.

IN our issue of last week we announced that the Fellowship of the Academy of Medicine of Paris had been conferred on Sir Joseph Fayrer; the same distinction has been conferred upon Dr. Bateman, the senior physician to the Norfolk and Norwich Hospital. Sir Joseph Fayrer and Dr. Batemen had for some years been corresponding members, and they now share the Fellowship of this Academy with only six other members of the profession in this country—viz.: Sir James Paget, Bart., Sir Richard Owen, Sir Joseph Hooker, Sir Thomas Longmore, Dr. West, and Sir Spencer Wells, Bart.

THE International Geographical Congress, which holds its sittings from the 10th to the 14th inst. at Berne, will differ from its predecessors in the enhanced importance it will give to climatology—a subject of yearly increasing importance to medical men, some of whom, specially proficient in it, are expected to take part in the proceedings. The exhibition, now an almost invariable feature of such Congresses, will on this occasion be of unprecedented magnitude, occupying sixty rooms in the New Federal Hall, and remaining open from the 1st to the 18th.

AN examination of candidates for commissions in the Naval Medical Department is announced to take place at the Examination Hall, Thames Embankment, on Monday, Nov. 2nd, 1891, in place of that usually held in August.

WE regret to have to announce the death, on the 4th inst., at his residence in Torrington-square, of Robert Hunter Semple, M.D., F.R.C.P., in his seventy-seventh year.

GUY'S HOSPITAL.—The surgical dressership of Guy's Hospital has become vacant by the resignation of Mr. Parkin. Applications for the post will be received up to Sept. 15th.

MURDEROUS ATTACK ON A SWISS MEDICAL MAN. A tragedy (writes a correspondent) occurred on the 30th ult. at St. Gallen, the chief town of the canton of that name. One Altermatt, a confirmed drunkard, whose lunatic wife had been placed in an asylum at the instance of Dr. Rheiner, under whose care she had been, called on the doctor, ostensibly to pay the bill for medical attendance. When that gentleman was referring to his case-book for the amount, he saw Altermatt take something quickly from his pocket, and in another instant he was set upon and stabbed. After three successive wounds had thus been inflicted by his assailant, Dr. Rheiner succeeded in getting hold of the lethal weapon, having his hand and fingers, however, severely cut in the endeavour. In the struggle that ensued both fell to the ground. Altermatt regained his feet, and also Dr. Rheiner, who was still able to stagger into the hall and call for assistance. Barely had he done so when Altermatt, stabbing himself several times, made his way into the street, where he almost immediately died of hæmorrhage. Dr. Rheiner's wounds are so grave that his colleagues are in doubt as to whether he can survive.

THE LANCET
Special Analytical Commission
ON
NATURAL MINERAL WATERS.

THE JOHANNIS SPRINGS AT ZOLLHAUS.

IN view of the steadily increasing demand in this country for natural mineral waters charged with natural carbonic acid gas, we have for some time held it desirable that this matter should at an early opportunity form the subject of a special investigation by our analytical commission. There seems little doubt that a natural mineral water is in many respects greatly superior to water artificially aerated with the gas which is commonly made from chalk and vitriol. The taste is softer and more pleasant, while there is reason to believe that water impregnated with its own natural gas retains the carbonic acid in solution for a longer time. Another probable advantage is that contamination with the chemicals inevitably employed in the manufacture of mineral water is entirely avoided. As far as we know, chemical analysis fails to discriminate between the naturally and the artificially obtained carbonic acid gas, as well as between the natural and the manufactured water. The only method, therefore, of deciding this question is to undertake an inspection of the springs whence the natural water is said to be derived, and to secure samples bottled and sealed under personal supervision for the purpose of making comparative analyses. An opportunity of this kind has recently been afforded us, and towards the end of June last one of our Commissioners visited the springs which are the property of the Johannis Springs Company, Limited, of London, and Zollhaus, in Germany. The company's springs are situated at Zollhaus, in the valley of the Aar, in the province of Nassau, hard by the famous Taunus Mountains. In accordance with directions given by Mr. Maconochie, the company's manager, who has afforded every assistance in this investigation, our Commissioner proceeded to Zollhaus by way of Cologne, Oberlahnstein-on-Rhine, and thence along the valley of the Larne to Dietz. At Zollhaus, which is not far from Dietz, Mr. Eigel, the resident engineer, laid open to our Commissioner's inspection every nook and corner in the works connected with the springs.

The Johannis spring is surrounded by a wall about 4 ft. in diameter, which projects upwards some 2 ft. above the level of the ground. It is founded on a rock, through which penetrate several borings about 10 ft. deep, the depth of the water above the rock being about 8 ft. A large slab of waterproof composition runs at a wide angle from the level of the ground, surrounding the spring, to the rock below. This effectually protects the water from all possible source of contamination from surface drainage. The spring has all the appearance of boiling water, from the large quantity of carbonic acid gas which is constantly escaping. A peculiar odour, characteristic of natural gas, is perceptible just above the surface of the water, and a lighted match placed there is at once extinguished. The gas was collected on several occasions and analysed by our Commissioner on the spot, and a qualitative examination of the water was also made. The results appear below. By means of a small gasholder similar to those used in gasworks, sunk several inches below the surface of the water, and loaded with necessary weights, the gas accumulates under a slight pressure, sufficient to force it gently into pipes which are connected with the works, situated within a stone's throw of the spring. Similar pipes are laid on for the conveyance of the water into tanks, kept under cover, and under lock and key in a large room in the buildings. The water in the tanks is allowed to stand for a short time in contact with atmospheric oxygen, so as to allow of the oxidation of the proto-carbonate of iron. It is thus converted into and precipitated as basic hydroxide. This treatment is desirable for more reasons than one. If the water were bottled at once, deposition of the iron would subsequently set in and render it turbid and unattractive. More than this, water containing iron would not mix well with wines and spirits, as the tannin contained in them would react with the iron, and produce an undesirable inky tint. The above simple process, however, effectually removes all iron from solution. After settlement the water is drawn off and brought into intimate contact, by means of powerful pumps, with the same gas with which it parted company at the spring. The gas and water are brought together in a tower filled with small pieces of broken glass—a device which promotes the thorough impregnation of the water with the gas. It is then ready for bottling. Throughout the whole of the buildings the machinery is of excellent description, in perfect order and in admirable condition, while cleanliness is apparent in every department. Close by the machinery room is the bottling shed, where revolving brushes for the cleansing, and automatic jets of water for the thorough rinsing of the bottles, are provided. The floors are laid with glazed fluted tiles, whereby the immediate disposal of all drainings is efficiently secured. In another wing of the building a process is carried out of great interest. The carbonic acid gas yielded by the Johannis spring is considerably in excess of that ever required for the mere aeration of the water, in spite of the enormous quantity bottled every day. So enormous, in fact, is the quantity of gas evolved from the spring that a considerable proportion of it is pumped under pressure into steel cylinders or "tubes." During this compression process the tubes are cooled by the external application of cold water. By this means the tubes are made to contain liquid carbonic acid equal to many hundred gallons of gas, which is sold to the proprietors of springs which are less favoured by nature as regards the yield of gas. This wholesale storage of pure carbonic acid gas in the form of liquid for purposes of export, derived directly from the inmost and unknown recesses of nature's storehouse, is an industry which few, probably, are aware of. Just as in certain parts of the world nature dispenses with the ugly operation of coal distillation by furnishing man with a plentiful supply of oil or inflammable gas for lighting purposes, so also, it would appear, does she dispense with the necessity of artificially producing carbonic acid gas from chalk and vitriol by supplying him with an apparently illimitable quantity of clear crystal water pleasantly sparkling with a plentitude of pure carbonic acid gas. When the liquid gas is allowed to escape from the "tubes," it evaporates so rapidly as to solidify almost immediately into a pure snow-like solid. Solid carbonic acid, as is well known, can be used for the production of very low temperature. It freezes water readily, and, in contact with ether, renders liquid mercury as hard as lead. In view of this interesting process, which our Commissioner witnessed in operation at the Johannis Company's springs at Zollhaus, it is evident that only the natural gas is used for the aeration of the Johannis water.

We now proceed to give the account of the results of analyses which our Commissioner was able to make on the spot with apparatus taken by him from our laboratory to the springs. As already mentioned, the water is in a state of turmoil, as though boiling, from the constant disengagement of carbonic acid gas. This gas was collected by suitable means, and analysed at once on the spot. The following were the results obtained:—

Gas from the Springs.

Carbonic acid (CO_2)	99·98	per cent.
,, ...	99·65	,,
,, ...	99·87	,,
,, ...	99·43	,,

It consists, it is evident, of practically pure carbonic acid.

The composition of the gas after passing through the pipes was ascertained to be as follows:—

Carbonic acid (CO_2)	99·95	per cent.
,, ...	99·89	,,

The admirable purity of the gas is here again made manifest, and it is obvious that it suffers in no way during its passage from the springs to the works. One of the first duties which the engineer performs, it is interesting to note, is to ascertain the purity of the gas by means of a simple and approved form of apparatus.

The water of the spring was next examined. The temperature at the surface was exactly 12° C., while on the rock where the borings commence it was one degree less. The water direct from the spring is as clear as crystal, and to the taste is delightfully cool and fresh, though somewhat inky, as is the case with most naturally carbonated waters from the occurrence of a trifling quantity of iron. The wall of the spring where the water is in contact with the air is coated

with a crust of red oxide. Tannin added to the water strikes a violet tint, indicating iron, and ferrocyanide of potassium solution confirms this by yielding a light blue colouration. On standing in contact with air the water gradually became opalescent from the separation of hydrated oxide. Methyl-orange showed an alkaline condition which required a distinct quantity of acid before an acid reaction could be made to predominate. Blue litmus paper of course turned red from carbonic acid gas, but on standing it resumed a deep-blue colour. Red litmus similarly turned blue after the gas had dissipated. Other tests showed the absence of sulphurous acid, sulphuretted hydrogen, combined bromine or iodine, while from a necessarily rough test not the slightest indication was afforded of the presence of organic matter. Samples were filled, corked, and sealed by our Commissioner and subsequently brought to THE LANCET Laboratory for a more elaborate analysis.

The water immediately after charging with gas was then examined in the charging-room. The results were practically the same, except that there was no iron, the removal of which has already been alluded to. Samples were bottled in our Commissioner's presence and brought over to London. This concluded the operations he was enabled to carry out at the springs.

Subsequently, numerous analyses were made in the laboratory of THE LANCET, and the exact amount and kind of the constituents dissolved were determined. The water direct from the springs containing its own volume of gas exhibited the following composition, expressed in grammes per litre:—

Johannis Water direct from Spring.

	Gramme.
Carbonate of lime	0·460
,, ,, magnesia	0·186
,, ,, soda	0·382
,, ,, lithium	traces
Chloride of sodium	0·034
Sulphate ,, ,, ...	trace
Oxide of iron	0·012
Silica	0·009
Total solid contents per litre	1·083

In grain per gallon the following figures on analysis were obtained:—

	Grain per gallon.
Free ammonia	0·0070
Albuminoid ammonia	0·0028

The kind and amount of constituents in the water bottled under pressure in our commissioner's presence at the spring are thus given:—

Johannis Water as it leaves the Charging Room.

	Gramme.
Carbonate of lime	0·448
,, ,, magnesia	0·138
,, ,, soda	0·445
,, ,, lithia	traces
Chloride of sodium	0·040
Sulphate of sodium	trace
Oxide of iron	trace
Silica	trace
Total solid contents per litre	1·071
	Grain per gallon.
Free ammonia	0·0080
Albuminoid	0·0032

Finally, the water procured independently in London yielded on analysis the following figures—

Johannis Water sold in London.

	Gramme.
Carbonate of lime	0·456
,, ,, magnesia	0·120
,, ,, soda	0·401
,, ,, lithia	trace
Chloride of sodium	0·041
Sulphate of sodium	trace
Oxide of iron	trace
Silica	0·010
Total solid contents per litre	1·028
	Grain per gallon.
Free ammonia	0·0084
Albuminoid	0·0035

Attention was next directed to the quality of the gas as it issued from the water in bottle, both of that procured from the charging room at Zollhaus and of that bought in London. The results obtained with the two samples of Johannis water are compared below with a sample of seltzer water artificially prepared.

Percentage of Carbonic Acid (CO_2) in Gas.

	(1)	(2)	(3)
Johannis, London sample ...	98·93	99·20	99·53
,, Zollhaus ,, ...	99·20	99·20	99·30
Artificial seltzer water ...	97·84	98·93	99·00

Experiments were then made with the view of deciding whether the natural gas is held in solution for a longer time than the gas artificially obtained. For this purpose the two samples of Johannis water were compared with artificially and well made seltzer. Subjoined are the figures in cubic centimetres, which represent the gas given off in half an hour, and the amount retained in solution half an hour after opening:—

	Johannis (London).	Johannis (Zollhaus).	Seltzer.
Gas evolved	480	530	760
Gas remaining in solution ...	1010	950	723
Total gas	1490	1480	1483

The bottles were opened at the same time, exposed to the same conditions of temperature, and they contained the same amount of water. The total quantity of gas, it will be observed, is practically identical, but there is an appreciable difference between the quantity of gas retained by a naturally and an artificially impregnated water. This experiment would tend to show that a water aerated under pressure with natural gas gives out that gas at a slower rate, when the pressure is withdrawn, than a water similarly aerated, but with artificial gas.

In considering all these analytical data the reader must be struck first and foremost with the remarkable constancy of composition which is exhibited by the Johannis water, whether it is obtained from the springs or from bottles procured either in Germany or in England. Not only does the quantity of mineral constituents coincide, but the extremely minute amount of organic matter (represented by the free and albuminoid ammonia in the above analysis)—an amount which testifies beyond question to the admirable organic purity of the water—is the same in all the samples. The residue obtained from a litre of the water does not give on burning the slightest indication of charring, which would be due to organic matter, and absolute freedom from foreign substances and objectionable metals was also indicated by tests of an equally searching character. The chief mineral ingredients, carbonate of lime, soda, and magnesia, are together in desirable proportions. Johannis water must be ranked accordingly with the waters of the class known as purely carbonated and alkaline. Iron is practically absent and the water mixes well with wines and spirits, the peculiar softness which the natural gas lends to the taste rendering it admirably adapted for this purpose. Traces of lithia in every sample were detected by the spectroscope, affording further proof that the water retailed in London is identical with that of the Johannis spring. The extraordinary purity of the gas is also of special interest. It consists, to all intents and purposes, of 100 per cent. of carbonic acid. The view that has been held by engineers—that natural waters charged with natural carbonic acid gas retain the gas, and hence the pleasant taste, for a longer period than manufactured mineral waters—finds confirmation in the experiments the details of which are given above. This is a point of some importance, as the salutary effect possessed by a super-carbonated water is largely due to the sedative influence of its carbonic acid gas on the coats of the stomach. The employment of a natural mineral water like Johannis, which is singularly marked by its property of retaining the gas for a comparatively long period, is calculated, according to this, to be attended with peculiar value in this respect, inasmuch as a maximum quantity of carbonic acid gas is introduced into the stomach by drinking a minimum quantity of the water. Such facts as the above, corroborated by the foregoing analyses, prove that the water bottled by the Johannis Springs Company is of exceptional purity and excellence. Johannis water may be safely recommended as a product in which solid, liquid, and gas are naturally blended.

THE BRITISH MEDICAL ASSOCIATION.

WE resume our report of the proceedings of the various sections of the Medical Association held at Bournemouth last week.

MEDICINE.

Discussion on Lupus.

This discussion was opened by Dr. PAYNE, who said that the subject was one of such extent that he should confine himself to certain points, and first spoke of the Nature of Lupus. By its anatomical structure, lupus clearly belonged to that class of morbid products first defined by Virchow as granulation tumours, which differ from new growths properly so called in not forming for themselves new bloodvessels, and consequently never go beyond a certain stage of development, consisting in the formation of the so-called granulation tissue. The only perfect tissue which they form is fibrous connective tissue, like that of a scar. They also undergo necrosis, which is partly a consequence of their non-vascularity, partly of some special property in the irritant which produces them. Hence they cannot really be distinguished from a sort of chronic destructive inflammation. Modern research has added to Virchow's definition the additional character that most of them, at all events, contain a persistent infective virus or cause of inflammation. Hence the modern definition of these structures is that of infective granulation tumours. In tubercle, glanders, and the rarer diseases, rhinoscleroma and actinomycosis, the infective virus has been demonstrated in the form of living micro-organisms. In syphilis, the existence of a similar living cause, though it has not been clearly demonstrated, is a matter of inevitable inference. Now, since lupus clearly belongs to this class of structures, if it did not contain and owe its existence to a micro-organism, it would be an exception to the general law. Considering that the bacillus of tubercle has been frequently detected in lupus tissue, though in very small numbers, the majority of pathologists and dermatologists now regard that as the cause of the disease, and consider lupus as merely tuberculosis of the skin. But there is an important minority of competent authorities who deny this. The researches of Koch and Leloir, as well as of other experimenters, have shown that portions of lupus tissue inoculated into rabbits and guinea-pigs produce tubercle with very great uniformity. He described the clinical history of the disease, and his experience was that the combination of other forms of tubercular lesions with lupus was found only in a minority of cases—perhaps one in four. He thought that secondary gland infection did occur in lupus cases, though not commonly. The speaker touched further upon the relations of lupus to scrofuloderma and to traumatic inoculated tubercular disease of the skin. The latter was sometimes very different from lupus in appearance, but in one case which he had had the opportunity of examining the histological structure was indistinguishable from that disease. Lupus was benefited by the same hygienic measures and medicines as other forms of tubercular disease. The general conclusion was that lupus must be regarded as tuberculosis of the skin; but this conclusion did not extend to lupus erythematosus, which was excluded from consideration. The admitted differences between the progress and clinical history of this disease and those of internal tuberculosis were to be explained by the tubercle bacillus growing very feebly in the skin, and producing an attenuated virus. The main cause of this feeble growth was probably to be found in the lower temperature of the skin, which was perhaps 20° F. on an average below that of the internal organs. We had, then, in lupus the case of the tubercle bacillus cultivated sometimes for many years at a temperature several degrees below that which was known to be its optimum temperature, and this would explain the great difference in its pathological virulence. With regard to the channel by which the virus was introduced into the skin, there were a few rare instances which seemed to show that direct implantation through a traumatic lesion was possible; but in most cases it was difficult to establish this. It was suggested that lupus might possibly be one of the forms of inherited tuberculosis. The question of direct inheritance of the tubercle bacillus as raised by Baumgarten was still *sub judice*, and the speaker did not commit himself to it. Nevertheless, direct inheritance, if established, would serve to explain many cases of tubercular disease which were difficult to explain on the theory of infection, and were especially the sluggish, clinical types of that disease to which the name "scrofulous" had been traditionally applied. It is clearly this class of diseases with which lupus has most affinity, and it might perhaps equally be due in some instances to hereditary transmission.—Dr. PYE SMITH (the President) expressed the thanks of the Section to Dr. Payne for his admirable paper. He asked if there were any authentic cases of successful inoculation with mussel juice and animal liquids in which the absence of bacilli and spores had been ascertained. He agreed that, contrary to the experience of the Vienna school, lupus does sometimes begin in adult life. Is the number of cases of tuberculous inheritance in lupus patients greater than in those of the same age and rank who have no lupus? He still believed in the distinction between tuberculous ulceration and lupus, the multiplicity, locality, relation to other tuberculous lesions, the course and reaction to treatment being very different, although the bacillary origin is the same.—Dr. COLCOTT FOX said that the evidence of the tuberculous nature of lupus might be arranged under three heads—viz., histological, experimental, and clinical. Statistics were quoted, and he asserted that the bacilli are generally to be found in lupus which is in course of evolution. Experiment showed that inoculation of lupus tissue, especially under conditions laid down by Leloir, generally give rise to local or general tuberculosis. Secondary infection of glands occurred not infrequently, and Leloir had shown that such glands are sometimes tuberculous. Dr. Fox's statistics (comprising eighty hospital cases) showed frequent complication with other tuberculous lesions, and that a family history of tubercle is very common.—Dr. ABRAHAM confessed himself a believer in the bacillary theory of tuberculosis and of the tubercular nature of lupus, but was struck with the fact that he had not been able to demonstrate the bacillus in fifteen cases carefully examined. He considered it possible that there was a hitherto unrecognised intermediate element which has not yet been shown microscopically, and he alluded to the fact in his experience that in the earliest manifestations of dermal leprosy bacilli could not always be found, although there was no doubt of their constant abundance in the older cases and in well-developed nodules. He had seen several cases of lupus in the early years of life, as well as cases appearing in comparatively old age. He presented a short report on the present condition of twenty-one cases of lupus and allied diseases of the skin which he had treated since December last with tuberculin. He stated that the present condition of five was not known; that three cases might be regarded as having derived no benefit, not even temporary, from the treatment. Definite relapses had occurred in five; some of them have since been scraped, the others are as bad as ever. The improvement manifested at the time of treatment has been maintained up to date in eight, and three of these may be looked upon, for the time being, as practically almost cured. He thought that in hyperæmic and ulcerative cases, especially where the disease was extensive and not easily reached by other means, tuberculin was a remedy of some real value in lupus cases.—Dr. RADCLIFFE CROCKER admitted the bacillary origin of lupus, and accounted for the sparseness of the bacilli by regarding them as having for the most part perished in the tissue, but being present in the apparently healthy tissue just beyond. Clinically, he regarded, with Dr. Pye-Smith, nodular lupus and scrofuloderma as different.—Other speakers took part in the discussion.

A New Diagnostic.

Professor SEMMOLA (Naples) communicated a paper in French, translated by Dr. Pye-Smith, on a New Method of arriving at a Diagnosis and Prognosis in Acute Disease by testing the urine for ptomaines, leukomaines, &c., which in their crystallised forms can be detected. He had been sent for to visit a young man suffering from left pneumonia following influenza. He manifested symptoms of what was believed to be cerebro-spinal meningitis. Professor Semmola, having got some of his urine, injected certain rabbits and guinea-pigs which were always kept in waiting, and the result was that these creatures began to show symptoms of tetanus, but from which they recovered, and Professor Semmola was able to assure the parents that the patient was only suffering from a form of blood poisoning, which would

pass off as the fever subsided. Other cases were given.—Dr. DRYSDALE observed that such observations could not be allowed in this country by reason of the Vivisection Acts.

The Effects of Alcohol.

Dr. SAMUEL WILKS read a paper on this subject, in the course of which he reviewed its present position in reference to its medical aspect. The physiologists would say that it had an inhibitory action on the vagus. Dr. Brunton, on the other hand, tells us that sipping any fluid has a similar effect. When taken in large quantities alcohol is absorbed and acts as a stimulant, as is seen by the flushing of the face and the increased mental vigour. If these effects are seen on the surface, it should be remembered that similar ones must take place in the interior. It was presumed that alcohol increases the flow of the gastric juice. After its stimulating effects had passed off, it then produces a marked lowering effect on all the functions of the body, its more immediate effects being seen in the brain and the digestive system. Classical illustrations of its soothing effects were adduced. The great central fact relating to alcohol was its direct effect on the nervous system in diminishing and lowering its functions. After a time it caused degeneration of the nerve centres, and produced general paralysis, manifested by the trembling lip and the shaky gait. The nerves became hardened and thickened. He had no acquaintance with any organic changes attributable to alcohol in the lungs and kidneys, but it seemed that the digestive and nervous systems suffered. Physiologists had failed to demonstrate the chemical changes which it underwent in the body, and consequently it was impossible to say whether it was of the nature of food or not. No one had yet seen a person who lived on alcohol, although there was evidence of persons taking large quantities of alcohol who yet preserved their weight with a minimum of food, and that supported the theory that, although alcohol was not nutritive in itself, it prevented the wear and tear of the body. The opposite theory also existed that alcohol acted as a spur to the nervous system, and quickly wore it out. He could not disapprove of the use of wine and beer, if taken in moderation, by the masses of the people; and as to spirits or spirits and water, he had not made up his mind that they were in any way useful, and he seldom recommended them. In the discussion which followed, Dr. SKERRITT, Dr. NORMAN KERR, and many others took part.—Dr. RIDGE exhibited photographs of geranium cuttings and poppy seeds which had been grown under the influence of alcohol in the one case, and of pure water on the other, in order to show that solutions of alcohol had the effect of hindering the growth of the plant.—Sir RISDON BENNETT thought a distinction should be made between the use of alcoholic drinks in disease and their employment in health. With regard to those in good health there was a great deal of difference as to its effect on individuals in that class. Many found that they got through their work with comfort and less exhaustion by taking a small quantity of alcohol. He did not take whisky, or brandy, or any spirit as apart from his ordinary diet. When travelling abroad he never dreamed of asking for a glass of port, but he takes the claret, which comes as a matter of course, or if champagne were available he did not hesitate to take a glass or two of that. Wine he felt made him sleep more heavily. He felt he could not lay down general rules for the ordinary practice of the community independent of individual experience and observation.—Professor SEMMOLA handed to the President his views on the subject, in which he pointed out that drunkenness among wine growers in Italy and foreign countries was extremely rare, owing probably to the fact that the wine they drink is of the purest kind, and that they did not drink more than was good for them.—Dr. WILKS, in his reply, observed with reference to Dr. Ridge's plants, that if he were a geranium he would prefer to be watered with pure water, as even turtle soup might not be so conducive to his healthy growth. Dr. Ridge had mentioned that Sir Risdon Bennett had been his teacher, and Dr. Wilks hoped that Dr. Ridge would live as long as his teacher, and enjoy at that advanced age as clear a brain.

SURGERY.

Tuberculous Diseases of Joints.

The President, Dr. JOHN WARD COUSINS, read a paper on the Recent Advances in the Treatment of Tuberculous Diseases of the Joints. He said: "During the past thirty years very remarkable development has taken place in all departments of our art, and although I think the expansion of our knowledge in connexion with disease of the joints has been less brilliant than in many other directions, still it has not been less radical as regards the system of treatment. Until the time of the late Sir Benjamin Brodie confusion and uncertainty surrounded this class of disorders, but by the labours of this distinguished surgeon many of these diseases were disentangled from each other, and the affections of the articulating apparatus, which had been grouped together under the common designation of 'white swelling,' were clinically separated. In the fourth edition of his work on 'Diseases of the Joints,' published in the year 1836, he graphically described tuberculous disease of the bones as commencing by the deposition of a transparent material in the cancelli, and afterwards undergoing transformation into a yellow cheesy substance. He drew a correct picture of the slow progress of the inflammation, the caries of the bone, the recurrent centres of suppuration, and the final termination either in imperfect ankylosis or complete disorganisation of the joint, associated too often with pulmonary disease or some other visceral affection. Brodie and Liston investigated the morbid alterations in articular cartilage and synovial membrane. They regarded the cartilages as prone to primary alterations of structure, and they initiated the doctrine that suppuration was a rare result of their primary ulceration, and that it took place only in the advanced stages of the disease, with caries of bone and destructive changes in the synovial membrane. They regarded the presence of capillaries as an essential condition of the inflammatory process, and they laboured to demonstrate the vascularity of cartilage in disease. The pathological doubts and difficulties of these eminent surgeons occupied the attention of many of their followers, and their clinical observations were marked by clearness and accuracy, but their minds were prevented from forming correct interpretations of their facts by their strange prejudices and imperfect views of the healthy and morbid processes. Some of the problems surrounding this structure were, however, at length solved by the labours of Redfern, Goodsir, and Rainey. These observers clearly demonstrated the changes which took place in cartilage by the perverted activity of disease. They asserted that it remained entirely non-vascular, and that its disorganisation was always accompanied by changes in the size and form of the corpuscles, and the softening and breaking up of the intercellular substance. During the process of repair they discovered that fibrous tissue had formed, and that into this new substance vessels were projected from the vascular system of the bone and synovial membrane, and thus the difficulties concerning the vascularity of inflamed cartilage were cleared away." Having referred to the old views relating to the pathology of tubercle and scrofula, he contrasted it with the views held at the present day. Continuing, he said: "Until the last few years early operations in joint disease had scarcely received any attention. In 1878, Volkmann, the inventor of the cutting spoon, performed several partial excisions in recent cases of hip-joint disease, but his results did not stimulate him to further trials. Since the year of the pathological revolution (1882) many favourable cases have been recorded, and he felt confident the practice, although still regarded by some as experimental, had already saved many limbs from graver operations. The intensity of the disease had been quickened by a chronic septic condition of the system, and it was the danger of its sudden aggravation, even with every possible precaution, which added to the risk of surgical interference. The micro-organisms of septicæmia, or their poisonous products, exerted a marked influence over the course of tuberculosis, for their presence reduced the resisting power of the system, and helped on the local and constitutional spread of the disease. But it was not only septic infection in its various forms that we had to combat, but every other kind of acute disorder of the blood. Children especially are liable to be attacked with any of the infectious fevers; and these are all attended with peculiar risks. Measles, from its disturbing influence over nutrition, is prominent among the group, for its power of rekindling tuberculous inflammation. Occasionally, however, his experience had seemed to point in the opposite direction, and that an accidental blood storm had exercised a remarkable effect on the course of the malady. Dr. Cousins narrated cases in support of his contentions.

THERAPEUTICS.

Discussion on the Action of Chloroform.

Dr. LAUDER BRUNTON, in opening the discussion on the action of chloroform, gave a short description of the results of the Hyderabad Chloroform Commission, the object of which, he said, was essentially a practical one. It was to save people's lives. In making their experiments the Commission had before them the question how far death during the administration of anæsthetics was likely to be due to the action of the anæsthetic itself, and how far to the effect of shock from the operation. The question regarding the action of the anæsthetic also divided itself into two—namely, how far the lethal effect might be due to affection of the heart, how far to affection of the respiration, and how far to both. "Before we attempt further to describe the experiments made by the Commission, I think it might be well to clear the way by mentioning that the time was too short to allow of the general action of chloroform or ether upon the tissues generally being investigated, and that we had to confine our attention to the methods in which death was likely to occur during surgical operations as usually performed. Previous researches had pretty well established that chloroform is a universal protoplasmic poison, and will destroy the contractile power of individual cells, of cilia and of muscular fibres, and, when injected into the artery of a limb, will produce rigor mortis in it and make it stiff as a board. There was no question, therefore, of the power of chloroform to destroy any structure of the body if applied to it in sufficient concentration; nor do we attempt to deny that chloroform will destroy the contractility of the heart just as it would that of a voluntary muscle, provided always it reached the heart in sufficient concentration. But this was just the point at issue. If we drive chloroform into the trachea, or air very heavily loaded with chloroform vapour into the lungs by artificial respiration, it will be absorbed in sufficient quantities to paralyse the heart; but the question is an entirely different one if the chloroform be administered in the usual way, by inhalation. Our contention is that when chloroform is administered in this way it acts more readily upon the respiration than it does upon the heart, and, from the respiration failing first, a sufficient quantity to paralyse the heart is never conveyed to it, and that therefore death from chloroform inhalation is respiratory death, death beginning with the respiration and not with the heart. It will be convenient to take up first, more fully, the question of death from the anæsthetic, by which I mean death due to the action of the anæsthetic itself, and, later on, to discuss the question of death during anæsthesia—that is, death from the operation or other causes than the anæsthetic, sometimes in spite of its action, and at other times, perhaps, aided by its action. The experiments made by the first Chloroform Commission showed that in dogs subjected to its action the respiration invariably failed before the circulation. Those made by the second Commission confirmed this, but they brought out a new point—namely, the rapidity with which the heart fails from the combined action of asphyxia and chloroform. This action is of two kinds: First, asphyxia during chloroform inhalation stops the heart's action through the vagus nerve. This is the action which was looked upon by the Glasgow Committee as so dangerous, but which, as Dr. Bomford pointed out, is rather a safeguard, tending to prevent the too rapid conveyance of chloroform vapour from the lungs to the medulla. The second action of asphyxia and chloroform combined is a paralysing one upon the heart itself. If an animal inhales pure chloroform vapour with free admixture of air, its heart will go on for a long time; in fact, we might say almost indefinitely. If an animal is asphyxiated, either by stoppage of the respiratory movements or by obstruction to the free entrance of air into the lungs, notwithstanding the continuance of respiration, the heart will go on for a certain time, but in the course of a few minutes will stop. This stoppage, however, occurs very much more quickly if chloroform be administered at the same time as an animal is asphyxiated, so that we may say that the great risk of death from the action of chloroform lies in the occurrence of asphyxia during its administration. I must here draw attention to what I believe to be a grave fallacy in some experiments of my friend, Professor H. C. Wood, mentioned by him in his address on Anæsthetics at the Berlin Congress. A tracing which he there showed seemed to indicate most clearly that the action of the heart failed long before the respiration. I here reproduce, as nearly as I can remember it, the general effect of this tracing. In it we seem to see clearly a stoppage of the beats of the heart while the blood pressure sinks, and yet the respiration goes on freely. Now, I believe that the stoppage of the heart in this tracing is only apparent, and not real, and that it is, in fact, due to a small clot of blood in the cannula which connects the artery of the animal with the chymograph. I have had many such tracings, and my experience has led me, whenever I got them, to disconnect the cannula and remove the clot. Had there been no clot the stoppage of the heart would have caused the blood pressure to fall abruptly instead of gradually, as shown in the tracing exhibited by Professor Wood. In comparing the action of ether and chloroform, we found that the great points of difference between them were—first, that ether was a less powerful anæsthetic than chloroform; and secondly, that while neither of them paralyses the heart when giving plenty of air, the heart would continue to beat much longer during asphyxia when combined with ether than when combined with chloroform. Chloroform is thus a more powerful agent, and, as I have already said on a previous occasion, it is like a sharp knife in the hands of the surgeon as compared with a blunt one. It is more efficient for good if properly handled; it is more powerful for evil if misused."

Dr. SHORE (Cambridge) related in detail some of the experiments which had been undertaken in Cambridge University with a view of discovering the effects of chloroform. In one, the investigators by entirely separating the nervous system of the animal from the vascular system by means of two rabbits, the one of which supplied the brain of the other with blood, showed that if the blood pressure were taken at the femoral artery when chloroform was given to the animal so supplied with blood, it was found that the operators could act at will either on the vascular system or on the brain. If the chloroform was administered to the dog acting as the feeder by means of the respiratory system, the blood pressure on the other dog was found to rise (in the illustrative case from 160 to 195). They learned from this experiment that chloroform could not cause a fall of pressure by acting on the vaso-motor centres, but it acts very readily in this manner by acting on the heart. He very nearly succeeded (when administering chloroform to the feeder) in stopping the respiration by sending chloroformed blood to its medulla. The feeder, however, was generally killed before enough chloroform had reached the brain of the fed animal. He did not think the animal died from failure of the respiration in all cases, but in some cases the animal succumbed to failure of the circulation. If chloroform is given with plenty of air, there is no reason why there should be a fall of blood pressure at all, which is caused by the direct action of chloroform on the heart, and not through depression of the vaso-motor centres.

Dr. DUDLEY BUXTON gave a description of the effects of chloroform from a clinical point of view, dealt with its pathology, and noted the conditions on which he considered the use of the anæsthetic was dangerous. He said that the apparently healthy died from the effects of chloroform, and that a carefully classified list of such cases would be a desideratum. As far as he had ascertained, certain young children did not so succumb. They, although subject to fright, were not the victims of psychical fear or of dread of death from the anæsthetic as occurs among adults. He had never come across the record of a death from ether or chloroform occurring in a healthy person. He touched upon the influence of climate, race, sex, and age on the administration of anæsthetics. The heart undoubtedly in human beings played a most important part in the question of the safety or danger of anæsthetics. Whatever might be said by others, there was incontestable clinical as well as experimental proof that primary heart failure is the commonest form of trouble in the case of chloroform poisoning. The research work of the Hyderabad Commission, as far as it went, was excellent, and it was only to be regretted that its so-called conclusions were permitted to be framed in such a way as to mislead those not sufficiently familiar with the matter to assume that it had settled once and for all the question whether chloroform causes primary heart failure. The Commission had perhaps failed to observe this effect, and that was all it was entitled to state. Clinical experience went to show that there is distinct evidence of cardiac failure occurring during chloroform administration.

Mr. PRIDGIN TEALE (Leeds) said that in the address on

Surgery two years ago, at Leeds, he had spoken strongly on this question. Since then numerous deaths had been recorded in the journals. Out of THE LANCET and *British Medical Journal* he had found that the cases recorded during this interval amounted to—excluding those from America—three deaths from ether and thirty-three from chloroform. The deaths from ether were: A case of chronic suppuration of the thigh, another for amputation of the thigh, and a third for fractured pelvis with extravasation of urine, the patient in each case being in a bad condition to begin with. If we take the deaths from chloroform, it is found that out of thirty-three, seventeen deaths occur during comparatively minor operations; in all cases in people in comparatively good health. But deaths from ether did not occur in people in good health. He had heard of several deaths in England that did not come into this list. He called it a terrible death roll from chloroform, and a very serious matter for the consideration of the profession. Dr. Buxton had referred to those cases that came near dying. During the six or eight years before he took up ether, he had had six patients who for some minutes were thought to be dead. One was a case of squint, two for minor operations on the rectum. He did not get such narrow shaves now. Regarding ether giving, he thought that many of the deaths were due to defective administration. Deaths from asphyxia or from bronchitis ought never to occur. It was possible to give ether without distress, but only by persons properly instructed in its use. Not everybody even could be taught, as many had not the power of concentrating their attention for that length of time on what they were doing, and therefore never made good anæsthetists. Many were so deficient in sensitiveness that they did not know when the patient was failing. Having described the mode in which he administered ether, he said that he felt it ought to be the anæsthetic taken up by all hospitals and schools, and that all students ought to be taught its use before being allowed to qualify.

Dr. G. EASTES discussed the question from the clinical point of view, and focused his remarks upon the question of the patient's safety. He thought that a large body of public opinion in England was now coming to the conclusion that ether is a safer anæsthetic than chloroform. Of the Hyderabad Commissioners Dr. Lauder Brunton had based his opinions on experiments on animals; but Dr. Eastes thought the deductions from such experiments should not be absolutely transferred to the parallel case of human beings. As to Surgeon-Major Lawrie's views on patients chloroformised in India, the differences between such patients and the patients in this country might possibly account for the far better results in the former country. He had himself found that patients etherised in summer in this country have less interference with respiration than when the agent is used in winter. But, in spite of the Hyderabad instructions being followed by anæsthetists, the death-roll from chloroform still increases; now, as the death-rate from ether is much lower than that from chloroform, surely it is vastly better to use ether as a routine remedy than chloroform. The margin between life and death is smaller with chloroform than with ether, therefore ether allows greater latitude for accidents or some amount of error. He could not cast aside all the teachings of clinical experience upon man and follow implicitly the guidings of researches conducted upon lower animals, though Dr. Brunton himself were his guide. Surgeon-Major Lawrie seemed to base his advocacy of chloroform chiefly on the fact that, although he had administered its vapour to human beings many thousands of times, he had never had a death. And certainly his statistics were far and away the most favourable with respect to chloroform or ether with which Dr. Eastes had acquaintance. But his practice had been in India.

Dr. CHILDS (Weymouth) said this was a subject which should be investigated by a committee. The results of the discussion to-day prompted him to move a resolution for the appointment of a committee to investigate the subject from a clinical standpoint, first as to the relative safety of ether and chloroform, next as to the best methods of administrating them, and finally as to a matter of very great importance which had been touched upon in the discussion respecting those who were apparently in great danger of death from either ether or chloroform. This was seconded by Dr. RICHARDSON of Torquay and Dr. COUPLAND, who directed attention to the dangers attending the administration of chloroform in cases of empyema lung disease. He hoped the committee would issue some rules for guidance in such cases. This was agreed to, and the names of Dr. Lauder Brunton, Dr. Childs, Dr. Eastes, Dr. Dudley Buxton, Mr. Pridgin Teale, and Dr. Snow were proposed as its members. Dr. Lauder Brunton, however, withdrew on the ground that only those who were accustomed to clinical work should investigate the subject clinically, and that as he had acted on the Commission as the representative of THE LANCET he did not feel himself quite at liberty to do anything in the matter without the consent of the Editors of THE LANCET. He could not form a member of the committee without consultation with them. The discussion was continued by Dr. Copeman, Mr. Harsant, Dr. Neve (Cashmir), Dr. Tyson, Dr. Renton (Glasgow), and the Hon. W. G. Le Fevre (from Australia).

On Friday, July 31st, Dr. BARETTA (Paris) read a paper on the Use of Dog's Serum in the Treatment of Tuberculosis. Some years ago Professor Richet found that rabbits were rendered immune to the staphylococcus pyogenes by injections with dog's serum, and later he found that the development of tubercle bacilli after inoculation was prevented by the same means. Applied to the human subject, the blood is drawn from the carotid of a perfectly healthy dog, and received with all care into small flasks, which are then hermetically sealed. Hypodermic injections are made with strict antiseptic precautions; they produce a slight rise of temperature, and sometimes a local swelling. No result was obtained in about one-third of the cases; in the rest a general improvement in digestion and strength took place, and in some there was noticed an improvement in the local signs; but in many the development of tubercle was only delayed for a time, and the conclusion was that the serum acted as a general tonic, and not as a specific. It had been also successfully used for other cachexiæ, as syphilis (by Fournier) and chronic malaria.—Dr. LAUDER BRUNTON had seen Professor Richet's method in practice at Paris, and mentioned a case of chronic syphilis which had derived much benefit from it. He had also seen a case of tuberculosis markedly improved during the continuance of the treatment (fifteen minims every two or three days). Goat's blood was less suitable, since its corpuscles were of the same specific gravity as the serum, preventing the separation of the latter.

Mr. E HART made an interesting communication on some Chinese Drugs. He briefly described the institutions for medical relief in China, and stated that in the medical art the Chinese were quite in the dark ages. Their medicines were very complicated decoctions of drugs, and as an example he gave the composition of a "recurring spring pill" for children. These pills, which were enclosed in sealed capsules, contained no less than fourteen ingredients, of which the active agent was "cinnabar," regarded as the chief of all metals, and believed to be capable of transmutation. The other constituents included such materials as "scorpion," "sea pearls," "amber," "grasshopper," "bezoaar," or biliary concretion from the cow, and "musk." Mr. Hart showed specimens of these pills and other drugs, and concluded by testifying to the devoted efforts of Mr. Cantlie to found a medical school at Hong Kong, efforts which were worthy of all encouragement. English medical men were, he said, the great agents of European civilisation in China.—Surgeon-Major JESSOP, who was in Canton after the rebellion, confirmed Mr. Hart's statements, and said that most Chinese would rather suffer death than undergo a surgical operation. Viper oil and cinnabar were popular remedies. Syphilis was very common. He strongly supported the movement to found a medical school at Hong Kong, and eulogised the work of the medical missionaries. Although the Chinese did not adopt new ideas so rapidly as the Japanese, yet when they did they pursued them actively.—Dr. LAUDER BRUNTON pointed out that the cinnabar, which was the active ingredient in these alterative pills for children, might be compared to the "grey powder" of civilisation. He thought, too, that "scorpion" might have some action, and mentioned that the skin of the toad had been found to act like digitalis.

Dr. COUPLAND read a paper on the Treatment of Pneumonia, in which he deprecated the use of depressant remedies, the advocacy of which had been based on conclusions in disregard to the numerous fallacies which underlie all therapeutical experiments in acute disease.

He laid great stress on the treatment of pneumonia as a fever, and preferred the application of cold to antipyretic drugs. As to alcohol, he considered that, although it might be dispensed with in many cases, yet it was undoubtedly a most useful agent in affording temporary support, such as is sometimes needed to tide the patient over the crisis. He asked for experience as to the best means of dealing with the complication of delirium tremens, expressing his own preference for opiates when not contraindicated by bronchitis or renal disease.—Dr. SANSOM endorsed the views expressed by Dr. Coupland. He had been dissatisfied with drugs, except, perhaps, quinine, and had not found digitalis of any service. He agreed as to the value of the treatment by cold, and advocated its commencement as early as possible. Ice could be well applied by means of an ordinary sponge bag. He cited the experience of Dr. Hare at the Brisbane Hospital as affording conclusive evidence of the value of the bath treatment in typhoid fever.—Dr. HUGH WOODS considered that digitalis was of great value when administered from an early period of the affection.—Dr. BARRS pointed out the desirability of combating the distressing insomnia of pneumonia, for which he usually prescribed sulphonal. The best method of dealing with delirium tremens was a very difficult one, and he cited two cases, in one of which morphia injections were of great service, but in the other the patient passed into fatal coma. He also considered that cold was far preferable to antipyretic drugs, and thought it could not be commenced too early. He had no very great belief in alcohol as a life-saving remedy, but did think digitalis of value.—Surgeon-Major JESSOP had found the perchloride of iron with acetate of ammonia very useful.

Dr. BARRS read a paper advocating the prescription of Digitalis in Aortic Regurgitation, where the main indication is to meet the diminished blood pressure. His arguments were combated by Dr. Sansom.

Mr. DENTON CARDEW then gave an account of his method of Electrical Treatment of Exophthalmic Goitre, as recently described in THE LANCET.

Dr. HUGH WOODS read a paper on Liquor Calcis Chlorata.

PUBLIC MEDICINE.

Diphtheria.

In this Section Dr. ALFRED CARPENTER read a paper on Diphtheria, in which it was shown that fifty years ago the disease was unknown in this country, but for the last thirty-five years cases had been under his personal observation in country places. Between 1860 and 1870 cases were common in rural towns, and between 1870 and 1880 the towns became affected. The differences between the two cases were that in the rural districts the outbreaks were limited to one or two, whereas in the towns the number was more widespread. Some cases were caused by distribution of infected milk, some by contagion in schools, but many of the isolated cases had nothing to do with the infection of milk. In some cases it had been found that when cesspools were cleared away, and the basement of houses rendered dry and damp-proof, the disease had been found to disappear. He also showed that warmth and moisture and absence of light were necessary agents for the propagation of diphtheria.—Dr. MANLEY (West Bromwich), as a medical officer for an urban district containing 60,000 inhabitants, considered the question from the point of view of sewage improvements. He could not find out that the disease had any connexion with sewage poison. It was formerly found in houses inhabited by people who were not over clean, and was not associated with the respectable classes of society.—Dr. BUTTERFIELD (West Kent) said that in rural districts diphtheria was not connected with sewers, but he had noticed the connexion of the disease with large deposits of manure, especially in farmyards.—Dr. FRANKLIN PARSONS showed that diphtheria had decreased in the rural districts and increased in towns, especially in large towns. He doubted whether they could attribute the existence of the disease to either the sewerage system or to the operation of the Education Act. In former years the mortality from the disease was very large in Paris, St. Petersburg, and New York. He also doubted whether the discharge of hot water in sewers could be attributed as the cause of the disease. It was his opinion that ultimately it would be found to be due to some organism, not necessarily parasitic, but residing in foul matter, which might be engrafted on the human body and assume the habits of the parasite.—Sir WM. MOORE had found that in the villages of India diphtheria was often present where there was neither drain nor sewer.—Dr. THRESH maintained that diphtheria was always associated with nuisance and filth, and he traced a curious coincidence between manure imported into districts and an outbreak of the disease. Several other members took part in the discussion.

Influenza.

Dr. FRANKLIN PARSONS read a paper on the Influenza Epidemics of 1889, 1890, and 1891, and their distribution in England and Wales. Influenza was first present in London in December, 1889, and became epidemic about Jan. 1st, but did not reach the hilly districts until March. In suburban places City men were found to be first to suffer, and clerks suffered in higher proportion than engine-drivers, though the latter were more exposed to the air. Deep-sea fishermen and lightship-keepers at sea almost entirely escaped. Medical men and nurses suffered in large proportion, but the disease showed little tendency to spread in hospitals. The succeeding epidemic was more protracted and more fatal in London than that of the previous years, but was less rapid in its development.—Sir PETER EADE followed on the same subject.

The Water-supply.

Dr. THRESH introduced a discussion on the subject of the Water-supply of Rural Communities where (*a*) Streams, (*b*) Ponds, or (*c*) Shallow Wells are relied upon. He said: "Quite recently I published the results of my inquiries into the water-supplies of the sixty-five parishes in my districts, and the tables exhibited, which are based upon that report, show that the influence of the character and quality of the water-supply could not be traced. No doubt it has a prejudicial influence, but it is so masked by others that as yet I have been unable to demonstrate it. A family accustomed to drink the water of a sewage-polluted well removed into another portion of the district, where a pond was the nearest available water-supply. The children all suffered from diarrhœa. The family asked permission to take water from a well on a neighbouring farm which I had condemned as dangerously sewage polluted. The diarrhœa at once ceased, and the children again enjoyed good health. In another case a labourer, having removed to a cottage on the marshes where water could only be obtained from a pond, a child was attacked with 'marsh' fever, and the general health of all the other members of the family was affected. After a few months he was obliged to remove to another portion of the marshes where a shallow well water was available, and in a very short time the effect of the change was most marked. Pond waters almost invariably contain much vegetable matter. In shallow wells, on the other hand, the polluting matter is of animal origin. In rivers there are usually both. Given that supplies from such sources are alone available, how can the risk necessarily attendant upon their use be reduced to a minimum? Domestic filters, and the boiling of water in all cases before use, naturally suggest themselves. In his experience neither are practicable. If the water is to be purified, or if any attempt is to be made to purify it, this must be done before the water enters the house. If the filter bed could be freely exposed, and the river or pond water discharged automatically from a syphon at such intervals as to allow of the aeration of the filter bed between each discharge, the result might prove a success."

Dr. E. F. WILLOUGHBY followed with a paper on the same subject, in which he said that in a somewhat extensive acquaintance with the dairy farms of the midland counties, from Berks to Somersetshire in the west, and to Bedfordshire in the north, and on every geological formation, from the Reading beds to the lower oölite, his attention had been specially directed to the frequently unsatisfactory and sometimes sadly deficient water-supply of the rural populations. He criticised the term "shallow" wells as equivocal, for depth *per se* was of little importance, since one of twenty feet deep fed by percolation from the surface might be dangerous, and another of fifteen feet beneath a superficial bed of clay six feet thick would be perfectly safe. The efficiency of mere mechanical filtration was proportioned to the thickness of the filtering stratum, but the purifying process dependent on the nitrifying action of bacteria did not proceed to any appreciable extent beyond six feet from the surface. Dr. Willoughby then described

the proper mode of construction of wells so as to avoid pollution, when from above or below.

Cremation.

A discussion on this subject was introduced by Sir SPENCER WELLS. He stated that it was eleven years ago since he had brought the subject before the members of the Association, and since then public opinion had ripened in favour of this manner of disposing of the dead. In March, 1885, the first body was cremated at Woking, and two others were similarly disposed of in that year. In 1886, 10 bodies were cremated; in 1887, 13; in 1888, 28; in 1889, 46; and in 1890, 54. The total number of cremations up to the present time was 214. This progress showed that, despite the opposition of the Government, the existence of prejudice, religious scruples, and other forms of objection, the old custom of burning bodies was beginning to establish itself in public favour. He went on to show that the present mode of disposing of the dead was most insanitary, leading to pollution of the air, water, and soil by disease germs. All efforts to abolish zymotic diseases were frustrated by the present method of burying persons who died of those diseases. He quoted from the researches of Darwin and Pasteur to show what an important function earthworms played in the diffusion of these germs, and that consuming the body by fire was the only really efficient method of destroying them. Referring to the proposed plans for the improvement of Westminster Abbey, he showed that, if the present method of interment was to be followed in that building, in a few years the whole available space would soon be occupied; whereas if the bodies were cremated, and the ashes placed in an urn or in the cloisters, an indefinite number of interments of our illustrious dead might be made in the Abbey itself or in an adjoining mortuary chapel.

Dr. FARQUHARSON, M.P., thought the progress made by cremation had been satisfactory. The medico-legal argument against cremation was worthy of attention, but Dr. Cameron, member for Glasgow, had shown that 18,000 persons were smuggled into their graves every year without any proper certification as to the cause of death.

Many other members took part in the discussion which followed, and in the end resolutions were agreed to disapproving of the present system of burial, and asking that public authorities should be encouraged to obtain power for the erection of crematoria out of the public funds.

In this Section the discussion on the Communicability of Tuberculosis from Animals to Man, opened by Dr. Woodhead, is held over for our next issue.

OBSTETRIC MEDICINE AND GYNÆCOLOGY.

On Thursday the discussion on Uterine Polypi was opened by Dr. JAMES MURPHY. He defined uterine polypi as tumours that formed a prominence beneath the mucous membrane of the uterus, and they were therefore stalked and sessile; but one was only a later stage of the other, as a polypus was a tumour in process of expulsion. Having briefly discussed the pathology and treatment of mucous polypi, he described fibroid polypi, which were simply fibroids or myomas in process of expulsion. But little was known of their pathology; they occurred more frequently in black races than in white, and were never found in the lower animals. They were of very frequent occurrence. Many cases of hæmorrhage going on for months were caused by them. They exhausted a patient to the last degree; the cachexiæ of anæmia were as profound as in malignant disease. While contained within the uterus they were sessile; when they escaped from the uterus they generally had a pedicle. Pedunculated polypi might be twisted off, snipped off with scissors, or removed with an écraseur; no bleeding occurred, owing to the slight vascularity of the pedicle and its retractility. With intra-uterine polypi the diagnosis and treatment were somewhat more difficult; the uterus should be dilated and explored with the finger. The écraseur might be suitable in some cases, but where there was a partial inversion it was a dangerous instrument. He preferred snipping round the capsule and enucleating the growth, at one sitting if possible. Dr. Murphy exhibited a large number of uterine polypi and several beautifully executed drawings in illustration of his paper. The discussion was continued by Drs. Bell, Edis, Murdoch Cameron, Heywood Smith, Leith Napier, Walker, Aust Lawrence, Inglis Parsons, Clement Godson, Alban Doran, O'Callaghan, and others.

Professor AUVARD (Paris) read a paper on the Treatment of Chronic Metritis. He advocated the use of (1) cauterisation, (2) scarification, and (3) antiseptics. For cauterisation he injected into the tissues a solution of creasote and glycerine. He scarified with a sort of plough which opened the follicles well up, and he used iodoform and salol.

Dr. LEITH NAPIER read an excellent and exhaustive paper on the Diagnosis of Spurious Pregnancy; and Dr. BELL another on the Treatment of the Uterine Appendages.

Dr. PRINGLE read a paper on Native Obstetric Operations in India. He said perhaps the title of his paper would have been more correct if it had been "Results of Native Obstetrical Practice in India," as in a great measure the practice of lady, but rarely gentleman, doctors is to treat the malpraxis of these *dhaes* or native midwives, and he added that though ultimately these midwives no doubt will be taught their duties, yet some time must elapse ere the lady doctors now in India will be called in to treat the cases from the commencement, and not, as it is too often now, when ignorant meddlesomeness has barbarously interfered with the natural processes of nature, and the lady doctor is called in, often, alas, too late to save life. Dr. Pringle stated that the medical treatment of women in India varied greatly in the three Presidencies; for while in Madras and Bombay the poor women, from being less secluded, enjoyed more medical treatment, in the Bengal Presidency, except in Calcutta, from the strict seclusion in which they were kept, they were absolutely without any medical treatment whatever. Speaking for the Bengal Presidency, in which he had served for thirty years, Dr. Pringle stated that there was no such person in India, whatever might be said or written to the contrary, as a native female doctor, and that the only individual who entered into the seclusion of the Zenana for the purpose of treating the inmates is the *jauai dhai*, or midwife of India. Here, as Dr. Pringle pointed out, lies the necessity for fully qualified lady doctors in India, anything short of full qualifications only risks the life of the patient and the character of the supposed doctor. He alluded to cases as occurring in his own practice such as no partially qualified lady doctor would feel justified in undertaking, and he added this would prove fatal to any reputation. Dr. Pringle said this was explained by the lowness of the caste of the midwife and the nature of her duties, which, according to high caste Hindoo notions of religious cleanness, necessitated the removal of the *dhai* and her patient to the greatest distance from other members of the family. After the paper had been read, the PRESIDENT said he thought, after listening to such barbarities, the heading of Dr. Pringle's paper should have been "Native Obstetric *Cruelties* in India," as what had been described could never be called operations.

Dr. PURSLOW read a paper on a case of Pelvic Abscess (suppurating pelvic peritonitis) treated by combined abdominal and vaginal incision and thorough drainage. Dr. Purslow urged the advisability, in suitable cases, of the double opening.

PATHOLOGY.

Pulmonary Phthisis.

The first work in this Section was a discussion opened by Dr. J. K. FOWLER on Arrested Pulmonary Phthisis. He said that the discovery of the tubercular bacillus had settled, so far as pathologists were concerned, the question which was long discussed as to whether phthisis was or was not always a tubercular disease. He proposed, indeed, that the term "phthisis" should be abandoned and be substituted by that of pulmonary tubercle. The term "fibroid phthisis" was unsatisfactory, as fibrosis might be due to chronic pneumonia or to the action of various mechanical irritants, that these ought to be classed as cases of chronic interstitial pneumonia, and that fibroid tubercle should be applied to those of tubercular origin. He was not satisfied of the existence of syphilitic phthisis. The so-called stages of phthisis had also to be given up. He proposed that pulmonary tubercle should be classed as follows: (1) For ordinary phthisis the term "pulmonary tubercle" was sufficient; (2) miliary tubercle for cases where the lungs only were affected, or as part of a more general tuberculosis; (3) caseous tubercle, where the process was rapid and might be disseminated, but might affect one lobe only; (4) fibroid tuberculosis, in which there was a special tendency in the tubercles to undergo fibroid change, and was distinguished from ordinary chronic tubercle with cavity formation, fibroid

walls, and thickened pleura. The history of tubercle might be very varied. Next he referred to the frequency with which pathologists met with appearances which they regarded as evidence of arrested tubercle, although it was still doubted by many clinical observers. The evidences on post-mortem examination which were regarded as proof of pre-existing tubercle were—(1) pigmented fibroid tubercles, either with or without evident tubercles; (2) caseous areas, or masses with dense fibroid capsule; (3) cretaceous masses; (4) small cavities; (5) scarring and puckering of pleura; (6) local adhesions, with thickenings of the pleura; and (7) caseous glands, and so forth. Any of these might be found in persons who had died of diseases which had nothing to do with tubercle, and from his statistics he found that about 9 per cent. of the bodies examined showed these; and his statistics agreed with those of other observers. A large number of cases showing arrested tubercle had died of cancer. Although capsules with caseous contents occurred, he had never seen what he would regard as a cavity capable of clinical recognition in which the tubercular process had been arrested. Although some believed they could follow the closing of cavities clinically, he confessed this was beyond his powers. The further question was, what was the proof that the lesions specified really represented arrested tubercle? First, there was the fact that encapsulated caseous masses may be followed by diffuse pulmonary tubercle if the barrier of fibroid tissue were broken down. Then cases occurred in which death was the result of tubercle in other organs than the lungs. Their site at the apex further supported this view, while there was an absence of any other adequate cause to account for the lesions. The method by which arrest took place was by the formation of a barrier of living tissue and fibrous encapsulation. But after the barrier had been formed danger still existed, for the caseous mass might soften and the capsule break down. The caseous or cretaceous mass might be expectorated; and there was always the element of constitutional vigour to be taken into account. In attempting to estimate the possibility of arrest, regard must be paid to the extent of lung affected. If cavity was present capable of clinical recognition, it was probable that, sooner or later, extension would take place. When bacilli were present in the sputum, the condition could not go on to fibrosis, but these might be present without much constitutional disturbance. Many of the cases of arrested tubercle were probably cases where there had been slight illness, and which, if they had been seen by a medical man at all, had probably been regarded as catarrh of the apex, or congestion, and, if there had been hæmoptysis, the blood had come from the throat, and the recovery of the patient tended in the minds of many to confirm this view.

Dr. SIDNEY MARTIN contributed a paper to the discussion entitled Healing of Retrograde Tubercle. He divided healed tubercle into two varieties: (1) Calcareo-caseous masses, which usually occurred at the apex, and possessed a fibrous capsule; (2) those which had undergone fibrosis. The interesting difference between these two was that the former contained tubercular bacilli, while the latter did not. He then considered the infectiveness of the former, while the latter he considered not infective. He then referred to cases of healed tubercle associated with pneumonia, but did not think there was necessarily any relation between them. From experimental inquiry there could be no doubt that there was a virulent and an attenuated bacillus, and it was possible that localised and healed tubercle might be due to an attenuated microbe; at the same time, allowance had to be made for the resistance of the organism, but they did not know exactly what that meant. He had made experiments with caseous nodules removed with great care, and he found that they produced tubercle in guinea-pigs. Pathology certainly pointed to the view that these caseous nodules were infective; at all events, one attack of tubercle did not exempt from another.—A number of beautiful photographs illustrating tubercle of the lung were shown for Dr. Woodhead.—Drs. Wilks, Bristowe, W. Russell, and the President of the Section spoke, and generally agreed with the experience and conclusions of Drs. Fowler and Martin.

Dr. HANDFORD then read a paper on the Pathological Changes in the Stomach in Typhoid Fever, showing that they are very constant in their occurrence, and of the same nature as the lesions of the intestine, but usually have progressed to a much slighter extent. They consist of areas of cellular infiltration in the muscular, the submucous, and most frequently in the mucous coat; in the latter they are found, more especially where adenoid deposits (resembling the solitary glands of the intestine) normally occur. Hæmorrhages of every degree of severity are also occasionally met with. There are, further, degenerative lesions due to high temperature; and in the later stages there may be changes due to septic infection, either from absorption from the surfaces of ulcers, or from the swallowing of the foul products to be found in the mouth and pharynx. But the essential lesions in the stomach are of the same nature as the changes in the other viscera—viz., liver, spleen, kidneys, lungs, &c.; and typhoid fever is a general disease. The relation of the typhoid bacillus to the stomach lesions has not yet been shown. Where the poison is introduced through the lungs, as in those cases which commence with pneumonia, the stomach symptoms may at first fail. The recognition of these gastric lesions is the key to the knowledge of the permissible variations in the dietary of typhoid fever.—The paper was illustrated by microscopic sections. This paper led to a few remarks and questions from the members present.

Dr. EDDOWES then read a paper on Hexheimer's Crystals in the Epidermis and Mucous Membranes, and illustrated it by microscopic specimens and coloured plates.

Dr. A. WILSON gave a paper, and showed specimens, on a Micrococcus occurring in Diphtheria. This coccus he had separated, and from its effect on pigeons he considered it was the microbe of diphtheria.—Dr. RUSSELL, in his remarks on the paper, referred to the great difficulty of not getting a culture of cocci from such a surface as the throat.

Dr. PHINEAS S. ABRAHAM showed microscopical specimens of the following diseases of the skin: Pigmented lymphosarcoma, xanthoma, dermatitis herpetiformis, peri- and end-arteritis of a vessel in an inflamed dermal fibroma, psoriasis, lichen pilaris, a leprous macule (from an early case of leprosy), a leprous nodule (from an advanced case), molluscum contagiosum, branching pigment cells in epidermis, psorosperm, and dermal tuberculosis.

A paper was read by Dr. W. H. DICKINSON on the Uses and Prospects of Pathology. He said the science of pathology must be regarded not as concerning only the results of disease, but also its processes. In no distant times little was known of pathology but rough morbid anatomy, and very little of that. A few of the larger facts—the nature of empyema, for example—were known to the ancients, but conditions to us so obvious as hepatisation of the lung and cerebral hæmorrhage were not recognised before the seventeenth century, though the symptoms in connexion with them had long been known. Morbid anatomy has advanced so much, especially during the last hundred years, that it may be believed that there are few changes obvious to the naked eye which have escaped notice. It is the ground work of medicine, and must ever be essential to the physician as presenting results in a compendious form. It may happen that results thus broadly presented may be evident to the practised eye which the microscope might fail to make equally clear. Something of minute morbid anatomy has been displayed with regard to most organs and tissues, but it is possible that those who come after us may regard our knowledge at best as absurdly incomplete, and exercise towards us the sort of charity which grown persons extend to a child. Of the more substantial organs we probably know something which, though rough, cannot be altogether wrong. But what shall we say about the nervous system? We may say that within the last half century the minute morbid anatomy of the nervous system has been begun, and some lines of light, however dim and narrow, projected into places dark since the creation. Reference was also made to some of the gains made to our knowledge of pathological processes, especially in embolism, lardaceous disease agents.

Mr. EVE opened a discussion on Senile Changes in the Bones and some Senile Diseases of the Osseous System, and showed a large number of specimens of microscopic preparations illustrating his contentions. He first recalled the chief structural changes of the osseous system in senility, pointing out that while there was enlargement of the medullary canal and rarefaction of cancellous tissue, a slight formation of sub-periosteal bone usually took place. A good example of premature senile atrophy of the alveolar processes of the jaws of a cretinous man aged fifty-one was shown; it indicated that the loss of teeth was the result of senile absorption. He also exhibited examples of atrophy and of fracture of the neck of the femur in old people, one specimen being an instance of osseous union of an extra-capsular frac-

ture in a woman aged ninety. The calvaria was sometimes extremely atrophied, but more commonly thickened by deposition of bone on the inner table in the frontal region. The parietal bones were sometimes the seat of a curious form of senile atrophy, giving rise to depressions which were mostly symmetrical, and situated between the parietal eminences and the sagittal suture. They were produced by absorption of the outer tables and diploe. He had found a thickening and condensation of the skull cap in cases of granular kidney, which had been examined in regard to this point, and showed two well-marked examples. The deposition of new bone was upon the inner table. A parallel was drawn between arterial sclerosis of renal disease and the changes of senility in which fibroid degeneration of the organs and thickening of the outer and inner coats of the arterioles had been demonstrated. By this means he suggested an explanation of the thickening of the skull and the osseous deposition on the long bones in senility; while in bone not formed in membrane, as the cancellous tissue of the long bones, the thickening of the coats of the vessels led to atrophy and absorption. Some diseases to which the bones are liable as age advances were then discussed. In one class represented by osteitis deformans the most prominent features were hypertrophy and thickening. In the other—i.e., mollities and fragilitas—ossium atrophy was predominant. A case of osteitis deformans in a man aged seventy-five, in which Mr. Eve had made the necropsy, was alluded to. There were present extensive primary calcareous degeneration of all the arteries, calcification of the aortic valves, and slight cirrhosis of the kidneys. The patient was said to have been gouty. In view of the fact that in many cases of this disease there is a gouty history, and in some instances evidence of vascular disturbance, as retinal hæmorrhage, he suggested a careful examination of the vascular system and kidneys in future cases. In regard to the second class of diseases mentioned, a true senile mollities occurring between the ages of sixty and eighty years undoubtedly existed. The symptoms and progress of the disease and the minute changes in the bones and marrow were identical with those of mollities of pregnancy; but the extremities were not affected in so large a proportion of the cases. Allusion was made to the treatment of mollities by removal of the ovaries. The point of departure for this operation was the case of a woman in whom a cure of the bone disease took place after Porro's operation. Fehling and others had now performed oöphorectomy in many cases for mollities with great success. In cancerous cachexia a softening and absorption of the bones occasionally was observed. In the case of a woman aged forty, with cancer of the omentum and mesentery, the ribs, ileum, and skull were so soft that they could be cut with a knife. The bones of the extremities were softened in a less degree. The microscopic appearances of the affected bones did not differs essentially from those of mollities, but the areas of decalcification were less extensive. (Microscopic sections were shown.) In conclusion, a brief reference to fragility of the bones in locomotor ataxia and in the insane was made. The subject was illustrated by specimens from the Royal College of Surgeons' Museum, which had been lent by the kind permission of the President and Professor Stewart.—In the discussion which followed, Dr. SPENCER referred to a condition of the bones which he had found in goats. He thought senile atrophy of the skull was to be regarded as due to vascular disturbance.—Dr. HERBERT SNOW regarded mollities ossium as probably sarcomatous.

Dr. HERBERT SNOW then read a paper on the Insidious Marrow Lesions of Mammary Cancer. He said that while the presence of tumours or spontaneous fracture was known to be due to an involvement of the bones, the marrow was frequently affected without any evidence from growth or fracture; and that this implication of the marrow was one of the causes of death. In the cases known as atrophic cancer of mamma there were usually no rheumatic pains and no bone infection. In nine out of twelve cases examined microscopically bone lesions had been found, and he regarded the cachexia in cancer as due to the affection of the marrow, which was a blood-forming tissue.—Mr. EVE and Dr. WOODHEAD criticised Dr. Snow's contentions, and pointed out that his observations differed from those of others, and that the contentions were based too much on clinical observations, and further, that some of his specimens did not show the structure which was regarded as characteristic of cancer; and that if infection occurred it must be by way of the blood, which was an unusual channel of infection.—Dr. SNOW, in his reply, contended that other observers had not noted the condition because the bones had only been examined when there was either tumour or fracture.

Dr. P. ABRAHAM read notes and showed specimens of a very extraordinary and apparently unique case of Melanotic Sarcoma of the Skin, in which the face, save the nose, had a purple, pudding-like appearance, with areas of ulceration on it. Dr. Abraham also showed some excellent microscopical specimens of various Skin Diseases.

The next paper was by Dr. FOKKER of Gröningen, on Some Experiments on the Fermentation of Milk in connexion with the prevailing Doctrine of Infection. The author attacked the popular bacteriological doctrines, and recorded a series of observations he had made on the souring of milk, tending to show that there was no specific bacterium lactis, but that several species were capable of producing the effect.

Dr. W. G. SMITH read a paper on Cases of Lymphoid Swelling of Solitary and Agminated Glands of the Intestine associated with Cerebral Symptoms. The cases had occurred in children, and specimens were shown.—It was contended by Dr. FOWLER and other speakers that the cases were those of typhoid fever, and that cerebral symptoms were often present in children as a result of various conditions.—Dr. SMITH was, however, disposed to regard them as cases of intestinal narcosis other than typhoid fever, and he was satisfied to have the possibility of such a condition considered and discussed.

PSYCHOLOGY.

In the discussion which followed Dr. Maury Deas' paper on the Present Position of the Lunacy Laws, Dr. NICOLSON (Broadmoor) in moving a vote of thanks to Dr. Deas for his address, congratulated him upon his able criticisms and conclusions, and expressed the view that it would do good.—Dr. FARQUHARSON, M.P., stated that he had been a member of the Grand Committee which dealt with this subject. He spoke of the lamentable suspicion with which the members of that committee regarded those members of the medical profession who are entrusted with the care of the insane. He deprecated the interference of legal men in the matter of deciding as to the mental state of a patient whose case was one entirely for the decision of medical experts.—Dr. BUCKNILL, quoting Lord Shaftesbury, spoke of the signing of orders by "common justices," and regretted that there was no better system. This was not entirely a medical question; it was one which involved the liberty of the subject. He thought that medical men should be grateful for the enactments in that Bill which protected medical men. He dissented entirely from the tone of blame which characterised Dr. Deas' address.—Dr. DRAPER (Huddersfield) gave examples of the practical defects in the working of the Lunacy Act which he had experienced in practice.—Dr. SAVAGE referred to the feeling of distrust towards medical men which pervaded the Act. Speaking on the question of the selection of special magistrates for signing orders, he failed to see any advantage in the system. He did not see any advantage as far as the public safety is concerned in the establishment of urgency orders. He strongly advocated the extension of the system of voluntary boarders, as tending to break down the legal barriers which hamper and surround the present system of the reception of patients into asylums.—Dr. CLIFFORD ALLBUTT (Commissioner in Lunacy) spoke of the tendency to place dangerous lunatics in asylums as voluntary boarders, and thought there would be a tendency to evade the law by avoiding certification. At the same time, he thought that an extension of the system would be largely beneficial. Referring to the form of inquisition now in use, while deprecating its cumbersome machinery, he indicated that there was a growing opinion on all sides that such inquiries should be shorter and quieter.—Dr. LANGDON DOWN spoke of the difficulty of obtaining lunacy orders from magistrates. He asked what was the advantage of the magisterial order, and indicated that these orders signed by medical experts would be much more satisfactory.—Dr. STANLEY HAYNES referred to the power granted by the Act to medical men to keep two or three private patients in their houses, and deprecated the extension of the system. He refused to sign lunacy certificates, as the risk was too great.—Dr. OUTTERSON WOOD was strong in his condemnation of the working of the Act.—

Dr. ALDRIDGE concurred in the general opinion that the Act hampered the action of guardians and medical men in placing patients in asylums. — Dr. NICOLSON gave a striking instance of the difficulty in placing a patient in an asylum owing to the refusal of magistrates to sign lunacy orders. He mentioned the far-reaching consequences of the obstacles which hamper the working of the Act. He ventured to assert that if the general medical practitioner were better instructed in this branch of the profession there would be fewer patients in Broadmoor, because the early symptoms of insanity would be better understood.—In his reply, Dr. DEAS spoke of the necessity which would ultimately arise from having special medical officers appointed for certifying.

Dr. CLIFFORD ALLBUTT opened the discussion on the Hospital Treatment of the Insane by a paper on that subject. He advocated a system which would reduce all asylums to a number of inmates not exceeding 1000. He would increase the efficiency and pay of the assistant staff, and break up asylum buildings into detached villas with cheerful surroundings.

Dr. F. H. WALMSLEY, in connexion with Dr. CLIFFORD ALLBUTT, read a paper upon the advisability of throwing open to medical students and medical practitioners the large asylums of the kingdom for purposes of study and post-graduate courses.—Dr. SAVAGE spoke upon the inquiry of the London County Council for the establishment of lunatic hospitals as a good sign of the spread of knowledge on the question of insanity. He expressed the opinion that a hospital of some kind was an absolute necessity.

Dr. SAVAGE initiated a discussion by a paper on the Influence of Surroundings on the Production of Insanity. He pointed out the influence of the surroundings generally in the growth of the organism throughout nature, and showed how conditions of surroundings may lead to health or disease. The idea that lunatics are born, not made, is one which requires to be firmly faced. Heredity produces some insanity, but he preferred to think that from neurotic parents arose more frequently diseases of sensation, of motion, and of the moral nature. Insanity may be merely a defect of accommodation to surroundings. Brain degeneration does follow certain external conditions. Education infers changes of growth and adaptation of the nervous system. He believed that as many criminals are created from the influence of the surroundings as are begotten. Insanity is a social as well as a medical question, and education and surroundings may colour as well as produce it. There is a cleavage of mind just as there is a cleavage of crystals, and the line of cleavage will depend upon the form of building up; surrounding conditions may produce some of the ordinary symptoms of insanity. The development of self-conceit is very interesting as manifesting the relation of ordinary ideas of insanity. He referred to the striking absence of general paralysis of the insane among the celibate clergy of France as an example of the influence of surrounding conditions.

Dr. WALLACE (Glasgow) followed with a paper on the Truth of the Idea of Heredity. He held that the popular notion regarding heredity was altogether erroneous, and questioned whether the mere reappearance of a characteristic was a sufficient evidence of the truth of the fact of its transmission. He brought forward in support of his theory the failure of external deformities, of induced changes such as circumcision, the mutilation of animals, the compression of the feet of Chinese women, to be transmitted to their offspring. He denied that likeness was transmitted from parent to offspring, for no proof existed that likeness was dependent upon hereditary transmission.—Professor BENEDIKT (Vienna) believed more and more in the influence of heredity in nervous diseases. The development of heredity itself depended upon the condition of surroundings. — Dr. MERCIER said it would appear that whereas our inherited organisation is our fate, on the other hand, in the influence of our surroundings we find our hope of modifying that fate. The result of the papers was to confirm in his mind the doctrine that he had long held — that insanity was the product of two factors, heredity and stress of circumstances. He considered that so strong was the influence of circumstances that there was no nervous system, however stably compacted, that it might not be liable to upset upon the incidence of a sufficient stress. That artificial mutilations are not transmitted was admitted on all hands; and the trite instances that Dr. Wallace adduced were insignificant by the side of one mutilation which had occurred invariably and inevitably in every one of countless generations, and which yet was never reproduced, each child being born in perfect integrity—he referred to the rupture of the hymen.—Mr. J. T. NEECH thought that in the study of insanity it was necessary to have some rational theory of mind, otherwise we could not understand the sane condition thereof, and unless we knew what sanity was we could not comprehend insanity.—Dr. FLETCHER BEACH was surprised to hear Dr. Wallace say the father did not transmit characteristics to his children. He had always understood that the germ cell was composed of gemmules from all parts of the body, and that the father not only transmitted his own characteristics, but those of his ancestors also.—Dr. WARNER referred to observations showing that among 2576 children seen as presenting cranial abnormalities, 43 per cent. were found by teachers to be dull at school lessons. Of 1331 cases of defects of palate 33 per cent. were mentally dull. There seemed to be some evidence that such conditions of defective make may be endemic in certain areas in and around London. While the children in Kensington and Chelsea presented 3·3 per cent. of cases of palate defects, in Islington there were only 1·1 per cent. of defective palates. —Dr. NICOLSON gave instances of insanity arising among criminals and criminal lunatics, owing to the peculiarities of their surroundings. He maintained that the mental acts might be sane or insane, according to the circumstances of the surroundings as well as according to the conditions under which the act was committed.

A paper by Dr. VOISIN of Paris was read. The title of the paper was "Can a Crime or an Offence be committed under the Influence of Hypnotic Suggestion?" The paper contained several instances of attempts at murder, arson, and other crimes having been committed by persons under hypnotic influence. A dummy figure was placed in a bed, and the subject, having been hypnotised, was ordered to murder the figure, for which purpose a knife was placed in her hand. She was also enjoined on no account to reveal the name of the suggestor. The subject approached the bed, committed the supposed deed, and immediately afterwards denied any complicity, and refused to reveal the name of the suggestor. Another instance was given of a woman, who had committed extensive thefts in Paris, having been for several months under the influence of hypnotic suggestion.—Professor BENEDIKT had given the matter of hypnotism much attention. He did not believe that crime could be committed under the influence of hypnotic suggestion. He had witnessed what he might term the comedy between the doctor and the patient enacted at a sitting. He did not for a moment attempt to doubt the genuineness of M. Voison's experiments, but he doubted for various reasons, chiefly the general absence of the necessary mechanism and accessories for crime that these experiments had any scientific significance. He ventured to express the opinion that these experiments could not, as a general rule, be made upon English or German patients.—Mr. E. HART regretted that Professor Benedikt entertained such views on the subject. He had himself frequently produced mesmeric sleep.—Dr. M'Nee (Inverness), Dr. Wilberforce Smith, Dr. Outterson Wood, Dr. Neech, Dr. Bridgewater, and others followed in the debate.

The PRESIDENT (Dr. Maury Deas) moved a resolution to the effect "that popular exhibitions of hypnotism and of persons under the influence of hypnotic suggestion should be prohibited."—An amendment, proposed by Dr. NICOLSON (Broadmoor), "that although we are all at one in our opinion on this subject, the time for taking action in the matter has not yet come," was negatived by a considerable majority.

Dr. CLAYE SHAW opened a discussion on the Surgical Treatment of General Paralysis. He described the operation as being done by two holes trephined one inch apart or by an opening three inches long and one inch wide over the parietal region of the skull.—Mr. CRIBB proposed the larger opening —Dr. BATTY TUKE proposed removal of the membrane.

Dr. VICTOR HORSLEY read a paper on Craniectomy, assuming that the brain in micro-cephalic idiots grew quicker than the skull. He was led to perform Landois' operation by removing a strip of bone about half an inch broad from nearly one whole side of the skull. He operated upon a child who showed all the symptoms of idiocy, being restless, uttering loud cries, and being non-intelligent. The

results of treatment were such as to remove all traces of the disease. Another child was born without fontanelles, who presented all the symptoms of an idiot. During the operation the child's temperature began to rise, and in a few hours was 104°. The respiration and pulse became weaker in a few days, and the temperature went up to 107°, and the patient died. This was not a case of shock, though the first risk in such cases is shock. He thought that in this case he had shown that the experiments of Eulenberg and Landois were verified, for he showed that there was in this case injury done to the heat centres in the motor cortex of the brain, and there could be seen in the brain, which he produced, injuries which would be seen as small punctiform hæmorrhages. He thought that in such cases the operation should be divided into two parts. First, the pressure ought to be relieved by a previous opening, because the brains of idiots were so close to the dura mater as to make operation almost impossible to perform without injuring the brain. After the primary operation he thought the secondary removal of a portion of the skull-cap could be easily performed.

OPHTHALMOLOGY.

On the Control of Railway Servants' Eyesight.

Mr. M. M. MCHARDY, F.R.C.S. Edin., read a paper on this subject. He said that ophthalmic experts are necessary as examiners as regards colour perception. The author would exclude all who manifested any degree, and Holmgren's tests and method of using the same are recommended. And as regards acuity of vision, he recommended Snellen's standard test types. The state of refraction of the eye may be also of importance in deciding as to fitness of candidates, and the essential meaning of such terms as "long sight," "short sight," and "astigmatism" must be explained to and grasped by railway authorities. A slightly short-sighted eye with sufficient unaided vision for railway purposes may be a better and longer useful eye than a hypermetrope with the same amount of vision.—Dr. G. MACKAY showed that in all the lines in Scotland the tests were inadequate, and the fewness of the refusals due to the supervision preventing incapable men from applying, and not to the tests themselves.

A committee, with power to add to their number, was elected, to report from time to time to the Association in reference to the sight of railway servants.

Dr. ARGYLL-ROBERTSON read a paper, entitled Case of Wound of Sclerotic, with Penetration of Eyelashes into Anterior Chamber. Twenty-four hours after the receipt of an injury with a sharp-pointed knife the patient showed vertical cut of sclerotic 3 mm. from nasal border and 9 mm. in length. Vitreous was escaping slightly, a lash was hanging from the wound, and removed; there was just perception of light; the cornea was quite free from injury; there was a good anterior chamber, no blood in it, and no dislocation of lens apparently. Two eyelashes, with their bases downwards, lay in the anterior chamber in front of the iris stretching over the pupil vertically. On the fourth day there came on some inflammation with effusion round the base of the lashes so they were removed by simple incision in the cornea, no vitreous escaping. The patient made a rapid recovery. At the end of the week the disc could be dimly seen owing to the blood in the vitreous; he then saw fingers at eight feet. To account for the lashes getting into the anterior chamber Dr. Robertson thought that at the time of the accident a slight rupture of the parts at the extreme angle of the anterior chamber might have taken place, and that the lashes worked their way from the vitreous through the hole thus produced into the anterior chamber.—Dr. HILL GRIFFITH said if, as many supposed, the suspensory ligament was separate fibres and not a continuous membrane, it would not even be necessary to assume that any artificially produced communication between the vitreous and aqueous chamber takes place. The operation was especially suitable in young subjects, when the lens was rather soft and immature.—The PRESIDENT: The question seems to him to turn on the proper performance of the incision. If this were properly concluded, then he did the simple operation; but if not, he preferred the iridectomy.—Dr. ARGYLL-ROBERTSON was strongly opposed to the simple operation, giving numerous reasons why it should not be done, the section required being necessarily larger, the bruising of the iris greater, the removal of the lens, and especially cortex, being much more difficult, and if vitreous escaped during operation the difficulties in using the spoon were much greater.—Mr. MCKINLAY was in favour of the older operation, having seen in other hands a succession of bad results. He employed a very small iridectomy.—Dr. HILL GRIFFITH advised all to try the simple operation carefully, and not be dissuaded from the attempt by theoretical objections, even when put forward by very distinguished and brilliant operators. He now used the simple method in a good proportion of extractions.

Drs. W. J. COLLINS and L. WILDE contributed a paper on the Pathology of Ophthalmoplegia. Hutchinson's theory of disease of lenticular ganglion in cases of ophthalmoplegia interna was combated, reasons being given. Results of Hæussen and Volkmann's experiments were quoted, showing the relative position of the centres for accommodation, internal rectus innervation, iris, &c., and Gaskell's view that the lenticular was a purely third nerve ganglion, and probably, then, had nothing to do with vaso-motor phenomena observed in some cases. The clinical basis was represented entirely as the work of Dr. Wilde, who had tabulated details of 120 cases, but this was not entered upon at length.

A discussion took place on the Treatment of Infantile Cataract. The PRESIDENT recommended operation to be done as soon as first dentition was completed. He needled the lens freely, and often removed the lens substance if inflammation was excessive from swelling up of lens. He preferred this to iridectomy in all cases. Other disease in the eye was often present in these cases.—Dr. ARGYLL-ROBERTSON performed a small optical iridectomy by means of blunt hooks. If the opaque part of the lens (his remarks were limited to lamellar cataract) were relatively small and no striæ were present in the clear portion, the operation was free from risk, the healing rapid, and the visual results, often good, had given even $\frac{6}{5}$, and no spectacles were necessary, often a point of some importance. In females he would not recommend it, as the deformity was objectionable. In regard to iridodesis, he had never seen these disastrous results recorded by others, but latterly had given it up. When he elected the needle he usually removed the broken up lens substance a few days after the discission. He had seen glaucoma and tedious inflammation produced by repeated needlings. He did not now use any form of suction curette.—Mr. M. M. MCHARDY said that in lamellar cataract he used the cutting needle very freely, rotating it from time to time during the operation to free the blade, and avoid in this way traction on the ciliary body. He used atropine very freely, and kept the patient in bed absolutely flat—i.e., without any pillow; this precaution prevented occurrence of iritis. Latterly he did not often require to use the suction curette, though formerly he used it always. He employed removal of lens substance from four to fourteen days after discission. Strict antiseptic precautions were taken.

Dr. HILL GRIFFITH, on the subject of the Prognosis of Choroidal Sarcoma, recorded a case of death by metastasis to liver two months after enucleation of an eye containing such a growth. Of twenty-three enucleations for sarcoma at the Manchester Royal Eye Hospital fourteen were alive from three to ten years after operation.

The pressure on our columns compels us reluctantly to hold over the description of the excursions and entertainments in connexion with the Association meeting, and a further notice of the exhibits at the various museums, with which we hope, however, to be able to supply our readers in our next issue.

INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

THE arrangements for the work of the Fourth Section of the above Congress are now complete. Under the President, Mr. Diggle, chairman of the London School Board, a number of subjects, interesting both from a medical and scholastic point of view, will be discussed. Although the number of papers is large, thirty-three in all, they have been arranged in such a manner as to leave no doubt that the whole programme will be got through in the allotted time. On Tuesday, August 11th, Dr. Warner opens the proceedings by reading a paper on the Scientific Observation and Study of Children in Schools and

the Classes into which they may be grouped. This will be followed by a discussion. The second division of papers contain purely medical subjects. Dr. Sturges contributes a paper on the Early Recognition and Probable Arrest of St. Vitus' Dance in School Children; Mr. Malcolm Morris on Ringworm in Elementary Schools; and Dr. Shelley of Hertford on Epidemics in Schools. Dr. Jacobi of New York on the same day will read an important paper on the Laws regulating the Employment of Children in the United States of America. On Wednesday, Aug. 12th, the President will deliver his address, thus differing from the other sections, in which the introductory addresses are all to be given on Tuesday. The papers which follow deal entirely with educational matters; noticeable among them are:—The Working Curve of an Hour, by Dr. Burgerstein of Vienna; School Hygiene, by Dr. Kuborn of Seraing-Liége; the Value of Hygienic Education to Women, by Dr. Schofield of London; Manual Training in its relation to Health, by Sir Philip Magnus. On Thursday, Aug. 13th, Dr. Kuborn will read a paper on the Effects of Education in Belgium on Criminality and Mental Diseases, which is to be followed by one from Colonel Prendergast on the State Methods of dealing with Juvenile Delinquency in England. This subject is certain to be warmly discussed, and it is to be hoped that some practical resolution on the subject will be framed and passed. The day will conclude with a paper by Mrs. Besant (of the London School Board) on Can Hungry and Half-clothed Children be efficiently educated? Friday, Aug. 14th, promises to be the most interesting day for this Section. A subject full of interest will be discussed—namely, the child imperfectly constituted as regards its intellect. Dr. Shuttleworth of Lancaster opens the discussion with a paper on the Care of the Mentally Feeble as distinguished from the Imbecile Child. Dr. Fletcher Beach of Dartford follows with a contribution on the Method of dealing with Epileptic, Feeble-minded, and Imbecile Children. Next comes a Contribution to the Study of Mentally Feeble Children, with a suggested Scheme for Collective Investigation, by four German doctors—namely, Drs. Strumpell, F. L. A. Koch, Emil Schmidt, and Ernst Hasse, all of Leipsic. Finally, Dr. Langdon Down has expressed his intention of taking part in the discussion. Interesting papers next follow on the Education of the Blind, by Dr. Campbell of Norwood, and on the Physical, Manual, and Technical Education of Deaf Mutes, by General Moberly, and appropriately following these are papers by Dr. Gutzmann of Berlin on Hygiene of Speech in Children, and by Dr. Kotelmann of Hamburg on the Acuteness of Vision in School Children. The Honorary Presidents of this Section are Dr. William Brown of New Zealand; Professor Fodor, Buda Pesth; Professor Henoch, Berlin; Dr. Jacobi, New York; Dr. Hyac Kuborn, Belgium; and M. Théophile Roussel, of Paris; and Dr. Kotelmann of Hamburg is an Honorary Vice-President.

DAILY PROGRAMME AND SOCIAL ARRANGEMENTS OF THE RECEPTION COMMITTEE.

Monday, Aug. 10th.

Opening meeting, St. James's Hall, 3.30 P.M.
Sir Andrew Clark's dinner at the Royal College of Physicians of London.
Soirée, Royal College of Surgeons, 9 P.M. to 12 P.M.
Ladies and gentlemen.

Tuesday, Aug. 11th.

Garden party at Baroness Burdett-Coutts's, Holly Lodge, Highgate, 4 P.M. to 7 P.M.
Conversazione at the Guildhall, 8 P.M. to 11 P.M.
Ladies and gentlemen.

Wednesday, Aug. 12th.

Garden party at Sir Edwin Saunders's, 4 P.M. to 7 P.M.
Lord and Lady Wantage's garden party, 4 P.M. to 7 P.M., 400.
Reception at the National Health Society, with exhibition of nursing and sanitary appliances, 4 P.M. to 7 P.M.
Garden party at the Royal Normal School for the Blind, 2.45 P.M.
Soirée at the Royal College of Physicians, 9–12. Gentlemen only.
Dinner by the Public Health Medical Society.
Dinner by the Fellows' Club.
(By special invitation.)

Thursday, Aug. 13th.

Reception at the Parkes Museum, 4 P.M. to 7 P.M.
Visit to Wormwood Scrubs Prison, 3.30 P.M.
Subscription dinner at the Crystal Palace, followed by an exhibition of fireworks. Tickets 10s. each, admission to Palace included (ladies and gentlemen).
Excursion to Ealing, 1.22 P.M.

Friday, Aug. 14th.

Visit to the Royal Naval Exhibition on presentation tickets to foreign members.
Inspection of the hospitals under the Metropolitan Asylums Board, at 2 P.M.
Visit to the Beckton Gasworks and to the sewage outfalls at Barking, with lunch on board Sir Donald Currie's steamer *Drummond Castle*. Limited to 190.
Garden party at Sir Spencer Wells's, 4 P.M. to 7 P.M.
Conversazione at South Kensington Museum.

Saturday, Aug. 15th.

Visit to the Thames Ironworks at 10.30 A.M., with vegetarian banquet at the works.
Excursions to Hampton Court and garden party at Normansfield by Dr. Langdon Down.
Excursions to—
Cambridge, limited to 60.
Bournemouth, limited to 30.
Friern Barnet Sewage Works, limited to 100.
Windsor Castle.
Gravesend, to attend meeting of the Sanitary Inspectors at 1 P.M. Limited to 12.
Netley Hospital, with luncheon at the hospital mess.
Birmingham, to inspect the destructors and sewage farm. Limited to 50.

Sunday, Aug. 16th.

Sermon by the Ven. Archdeacon Farrar, D.D., F.R.S., at Westminster Abbey at 3 P.M.
Excursion, by Dr. George Buchanan, on the river from Maidenhead. To leave Paddington by the 10.10 A.M. Limited to 50.

SOCIAL ARRANGEMENTS.

Every endeavour will be made to make the visit of the Congress pleasant and instructive to members, and to enable them to see to advantage whatever England has to show which is of interest from the point of view of sanitation, science, art, and archæology. A Congress badge, from a design by Mr. Thomas W. Cutler, and approved by H.R.H. the President, will be presented to each member.

Receptions.

1. The Royal College of Physicians will receive members of the Congress at a Conversazione to be given at the College in Pall Mall on Wednesday, August 12th. This reception is limited to gentlemen only.
2. The Royal College of Surgeons has decided to give a Conversazione in the Hunterian Museum and Library of the College in Lincoln's-inn-fields on Monday, August 10th, at 9 P.M.
3. The Lord Mayor and Corporation of the City of London have generously consented to give an entertainment to members of the Congress at the Guildhall on Tuesday, August 11th.
4. A Reception will be held at the National Health Society on Wednesday, August 12th. There will be an exhibition of sanitary and nursing appliances.
5. The Sanitary Institute will receive members of the Congress at the Parkes Museum, 14a, Margaret-street, Oxford-street, on the afternoon of Thursday, August 13th.
6. The Organising Committee invite the members of the Congress to a Conversazione on Friday evening, August 14th, at 9 P.M., at the South Kensington Museum.

Garden Parties.

Mr. and the Baroness Burdett-Coutts kindly invite a limited number of members to a Garden Party at Holly Lodge, Highgate, on Tuesday, August 11th, 4 P.M. to 7 P.M.
Lord and Lady Wantage, at 2, Carlton-gardens, Pall Mall, on Wednesday, Aug. 12th, 4 P.M. to 7 P.M.
Sir Spencer Wells, at Golder's Hill, Hampstead, on Friday, Aug. 14th, 4 P.M. to 7 P.M.
Sir Edwin Saunders, at Fairlawn, Wimbledon Common, on Wednesday, Aug. 12th, 4 P.M. to 7 P.M.
Dr. Campbell, at the Royal Normal School for the Blind at 2.45 P.M.

Dinners.

By Sir Andrew Clark, at the Royal College of Physicians of London, on Monday, August 10th, to meet his Royal Highness the Prince of Wales.
By the Public Health Medical Society on Wednesday, August 12th, at the Holborn Restaurant.
By the Fellows' Club, at Limmer's Hotel, Conduit-street, on Wednesday, August 12th, at 7 P.M.
Subscription Dinner at the Crystal Palace, followed by an exhibition of fireworks, on Thursday, August 13th, at 6.30 P.M. Tickets 10s. each, railway and admission to Palace included.

Excursions.

The Metropolitan Asylums Board has arranged for a limited number of members of the Congress to inspect the River Ambulance Service, and to visit the Floating Small-pox Hospitals at Long Reach, on Friday, August 14th.
Sir Donald Currie has kindly invited a limited number of members to luncheon on board the *Drummond Castle*. During the afternoon arrangements will be made for a visit to the drainage outfalls at Barking, and to the Beckton Gas Works.
The Thames Ironworks Company will convey 500 members by steamer to inspect their works. They will subsequently entertain visitors at a vegetarian banquet, and afterwards at an operatic entertainment. Steamer leaves Charing-cross pier at 10.30 A.M.
Dr. George Buchanan invites a party of fifty members to accompany him on an excursion on the river from Maidenhead, on Sunday, Aug. 16th.
Surgeon-General Madden and the officers of the Army Medical Staff will entertain fifty members at luncheon at the Hospital Mess, Netley, on Saturday, Aug. 15th.
Cambridge.—The Vice-Chancellor and Members of the Senate of the University of Cambridge will receive fifty members at the Senate House on Saturday, Aug. 15th, at 1 P.M. Luncheon will be served at 1.30 P.M. in the Hall of King's College. From 3 P.M. to 5 P.M. the College and University buildings will be inspected, after which the visitors will be entertained at a garden party by the Vice-Chancellor at Trinity Lodge. The train will leave King's-cross at 11.10 A.M., and arrive at Cambridge at 12.30 P.M. The return train leaves at 6.10 P.M. and arrives at King's-cross at 7.55 P.M.

Bournemouth.—The Mayor and Town Council of Bournemouth invite twenty members to luncheon on Saturday, August 15th.

Friern Barnet.—On Saturday, Aug. 15th, an excursion, limited to 100 members, will be made to Friern Barnet Sewage Works. A light luncheon will be served. The works were constructed by Mr. Baldwin Latham in 1886, the principle adopted being chemical precipitation combined with artificially prepared filter-beds, the top surface of which is made up of good garden mould. Their action is chiefly automatic. Frequent trains run from King's-cross (Great Northern Railway) to New Southgate, from which the works are distant about three-quarters of a mile.

Refuse Disposal Company, Chelsea.—The Refuse Disposal Company invite forty-eight members on Tuesday, Wednesday, and Thursday, Aug. 11th, 12th, and 13th to inspect their works. Visitors will be conveyed from Burlington House on each of the days, in brakes, which will start at 2.30 P.M.

Ealing.—An excursion has been arranged for the Engineering Section for Thursday afternoon, Aug. 13th, to Ealing, leaving Westminster-bridge station at 1.22 P.M. The number is limited to sixty. The chairman of the board will give a luncheon at the Town Hall, Ealing, at 2.15 P.M.

Woking.—Sir Henry Thompson, F.R.C.S., President of the Cremation Society of England, will be at St. John's, near Woking, on the afternoon of Wednesday, Aug. 12th, from 3 45 P.M. to 5.15 P.M., to receive members of the Congress wishing to inspect the Crematorium. A convenient train leaves Waterloo Station at 2.12 P.M. for Woking Station, returning from there at 5.42 P.M., and reaching Waterloo at 6.24 P.M. Return tickets at reduced fares will be issued by the railway company to members of the Congress.

Birmingham.—A party of fifty members will visit Birmingham on Saturday, Aug. 15th. They will be met by Mr. Alderman Barrow, who will accompany them to the Destructors, whence they will proceed to the Sewage Farm; after inspecting which, they will be entertained at luncheon by Mr. Alderman Avery, the chairman of the Drainage Board.

Hampton Court and Normansfield.—Dr. Langdon Down invites the members of the Congress to visit Hampton Court Palace, and to proceed by steamer to Normansfield on Saturday, Aug. 15th. Train will leave New Station, Waterloo. The return will be made from Normansfield either by steamer or train.

Her Majesty's Palaces.—Members of the Congress will be permitted to visit St. James's Palace, Buckingham Palace (400 per diem), Kensington Palace, and Hampton Court Palace. Visit to Hampton Court Palace on Saturday afternoon, 15th, in connexion with Dr. Langdon Down's Garden Party.

Other places of interest.—Members will be permitted to visit the Tower; the Bank of England by special ticket to not more than six people a-day; Kew Gardens; Apsley House (admission to thirty persons on Aug. 13th and 15th, each day, by special ticket); Stafford (or Sutherland) House, St. James's-park; Grosvenor House, Upper Grosvenor-street, W.; Bridgewater House, Cleveland-row; Dudley House, Park lane; Sion House, Isleworth (admission by special ticket on Aug. 12th and 13th to fifty-one people each day); Reform Club, Pall-mall; National Liberal Club; Guy's Hospital, London-bridge, S.E.; St. Bartholomew's Hospital, West Smithfield, E.C.; St. Thomas's Hospital, Albert Embankment (can be visited every morning on presentation of Congress card); London Hospital, Whitechapel, E.; School of Medicine for Women; Bethlehem Hospital, St. George's-fields; Hanwell Asylum, Hanwell (not more than ten members will be allowed to visit the asylum, on Wednesday, Aug. 12th, on presenting the Congress card); Netley Hospital, Hampshire (fifty members will visit the hospital, and will afterwards be entertained at luncheon by Surgeon-General Madden and officers of the Army Medical Staff, on Aug. 15th, at 1 P.M.; Herbert Hospital, Woolwich; Newgate Prison, Old Bailey, E.C.; Wormwood Scrubs Prison, W.; *Times* Office, Printing House-square, E.C. (the Walter press, type-setting by machinery &c., admission by special order to not more than six persons per diem); King's College, Strand; Crossness and Barking Drainage Outfalls (on Friday, Aug. 14th, there will be a visit to Beckton Gasworks, and to the sewage outfalls at Barking, with lunch on board Sir Donald Currie's steamer *Drummond Castle*, limited to 190); Friern Barnet Sewage Works (visit to the works on Saturday, Aug. 15th, limited to 100); Lambeth, Grand Junction, and Vauxhall Waterworks; East London Waterworks, near Tottenham, E.; Gas Light and Coke Company Works, Beckton; the Royal Botanic Society (the Council of the Royal Botanic Society have kindly consented to allow members to have free admission to the Botanic-gardens, Regent's-park, during the session of the Congress); Zoological Society (the Council of the Zoological Society has also consented to allow members to visit the Zoological Gardens, Regent's-park, free of cost, during the session of the Congress); the Royal Naval Exhibition (the Executive Committee kindly offer a special ticket to all the invited foreign guests of the Congress, available for Friday, Aug. 14th); the German Exhibition (the Director-General in London has generously placed at the disposal of the Reception Committee a limited number of complimentary tickets, available for Tuesday, Wednesday, Thursday, and Friday, Aug. 11th to 14th); Gravesend (twelve members are invited to Gravesend in connexion with the meeting of sanitary inspectors on Saturday, Aug. 15th, at 1 P.M.); the Northbrook Club (all Indian delegates are invited to the Northbrook Indian Club, 3, Whitehall-gardens, S.W., as honorary members during the month of August).

The following municipal and county authorities have expressed their intention of affording to members of the Congress facilities for viewing the sanitary works and public institutions under their care, viz.:—The Corporations of Aberdeen, Brighton, Burslem, Croydon, Carlisle, Chester, Chichester, Dover, Derby, Dublin, Eastbourne, Folkestone, Hanley, Hereford, Leicester, Liverpool, Manchester, Nottingham, Nairn, Portsmouth, Ramsgate, Selkirk, Southampton, Stafford, Stratford-upon-Avon, Salisbury, Tynemouth, Wigan, Wilton (Salisbury), York; the County Councils of London, Northumberland, and West Riding of Yorkshire; the Vestries of Marylebone, Paddington, St. George's (Hanover-square), St. James's (Westminster), St. Mary's (Newington), Mile-end Old Town, and St. Pancras; the Boards of Works of the Districts of Holborn, St. Giles' (Strand), and St. Olave's (Southwark).

A Ladies' Committee has been formed for the daily reception of the ladies whose husbands are engaged in the more serious work of the sections. Between 10 A.M. and 12 noon sight-seeing parties will be organised for those who desire to see places of interest in and out of town. Some members of the committee will always be present during the day to assist strangers in every possible way. These receptions will take place in the beautiful picture gallery in Old Bond-street, kindly placed at the disposal of the Ladies' Committee by Messrs. Agnew. The President of the Ladies' Committee is Mrs. Priestley, 17, Hertford-street, Mayfair, to whom all communications should be addressed.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Woolwich Urban District.—Estimating the population of Woolwich at 40,800, the death-rate during 1890 was, according to Dr. Wm. R. Smith, 21·4 per 1000, the zymotic rate being 2·89 per 1000. The latter rate is heavy, but the notification system is said to work without any friction, and, as far as any judgment is possible, there seems to have been less infectious disease than during the previous year. In every case the affected premises have been visited and isolation in the South-Eastern Hospital has been favoured. Isolation is, however, hindered by a curious circumstance. Owing to Government allowances and sick clubs combined, a man who stays away from his work owing to the existence of infectious sickness in his house can earn more by stopping at home than if following his ordinary avocation in the arsenal. In short, it does not pay an arsenal servant to send any infectious cases away to hospital. One item of economy is stated which has general interest. Perchloride of mercury has been substituted as a disinfectant for McDougall's powder; and with the use of the more powerful disinfecting agent the cost has been reduced from £121 in 1889 to £35 in 1890, although the perchloride was only in use during nine months of the latter year. Although much remains to be done for this district, notably as regards the insanitary state of a number of houses, Dr. Smith is able to report progress, and he states that, according to his recommendation, all waterclosets now have a proper water-supply, and suitable provision has everywhere been made for ashes.

Lexden and Winstree Rural District.—Whilst Dr. J. W. Cook congratulates his authority on a death-rate of 14 per 1000, he urges that more needs to be done to reduce the infantile death-rate still further. The zymotic rate did not reach 1 per 1000; but there are dangerous conditions still existing. Privies and ashpits are very generally faulty, wells are shallow and dirty, and the former needs the ordinary remedy—namely, a public system of scavenging. The notification system works well, but Dr. Cook says that the absence of an infectious hospital would be greatly felt in the event of a severe epidemic. The need for it is, however, much greater in order to isolate first attacks, with a view to prevent a severe epidemic; indeed, such hospitals rarely render their best service in the face of an actual epidemic, and this is doubtless what Dr. Cook has in view, for he only advocates the provision of a few beds in several parts of the rural area.

Scarborough Urban District.—Dr. J. W. Taylor commences his nineteenth annual report with complete meteorological information such as is so useful in a resort like Scarborough. The subject of diphtheria has evidently given some local concern, and Dr. Taylor refers to certain points brought forward in Dr. Thorne Thorne's Milroy lectures, and especially to the evidence that, synchronously with an immense development in sanitary improvements, diphtheria is on the increase in England. The general death-rate during 1890 was 16·4, and the zymotic rate 0·9, per 1000. It is worth recording that the corporation are making arrangements for the provision of an improved isolation hospital. This has long been needed in Scarborough, where much satisfactory sanitary work is steadily in progress.

Coventry Urban District.—Coventry is estimated to have had 53,000 inhabitants in 1890, and the death-rate was 18·4 per 1000, which represents a slight rise. New building bye-laws have been prepared and await confirmation. This is always a step of great importance as to the future sanitary history of a district. The cycle trade has, according to Dr. Fenton, added a source of unhealthiness to the city, owing to débris thrown off rapidly revolving stones and

the use of a powder especially in the polishing process. The works are not properly ventilated, and thus a tendency to bronchitis, asthma, and phthisis is showing itself amongst bicycle polishers. The isolation hospital was well in use during the year; 83 cases were admitted, of which 72 suffered from scarlet fever. But the hospital needs amendment, especially as regards the provision of a suitable close fence around the site, coupling the back-to-back houses with others having no through ventilation. There are no less than 3106 such houses in Coventry. Such a matter, and the need for an increased water-supply, show that there is yet ample room for sanitary work in the city.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 5748 births and 3544 deaths were registered during the week ending Aug. 1st. The annual rate of mortality in these towns, which had increased in the preceding three weeks from 16·8 to 17·6 per 1000, further rose to 19·6 last week. The rate was 20·5 in London and 18·9 in the twenty-seven provincial towns. During the past four weeks of the current quarter the death-rate in the twenty-eight towns averaged 17·9 per 1000, and was considerably below the mean rate in the corresponding periods of the ten years 1881–90. The lowest rates in these towns last week were 9·9 in Brighton, 10·3 in Bristol, 12·3 in Nottingham, and 14·7 in Blackburn; the highest were 22·7 in Leicester, 23·0 in Leeds, 24·6 in Liverpool, and 35·8 in Preston. The deaths referred to the principal zymotic diseases, which had increased from 310 to 456 in the preceding three weeks, further rose last week to 653; they included 410 from diarrhœa, 92 from whooping-cough, 46 from diphtheria, 44 from measles, 31 from scarlet fever, 30 from "fever" (principally enteric), and not one from small-pox. The lowest death-rates from these diseases were recorded in Nottingham, Blackburn, Plymouth, and Bristol, and the highest in Leeds, Birkenhead, Sunderland, Leicester, and Preston. The greatest mortality from measles occurred in Birkenhead and Sunderland; from scarlet fever in Bradford and Halifax; from whooping-cough in Norwich, Newcastle-on-Tyne, Manchester, and Cardiff; from "fever" in Birkenhead; and from diarrhœa in Birkenhead, Hull, London, Leeds, Leicester, and Preston. The 46 fatal cases of diphtheria included 30 in London, 4 in Manchester, 3 in Portsmouth, 2 in Liverpool, and 2 in Birmingham. No death from small-pox was registered last week in any of the twenty-eight towns; and no small-pox patients were under treatment in the Metropolitan Asylum Hospitals or in the Highgate Small-pox Hospital, on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 899, against numbers increasing from 857 to 869 at the end of the preceding three weeks; the patients admitted during the week were 121, against 101 and 98 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 189 and 175 in the preceding two weeks, were again 173 last week, and slightly below the corrected average. The causes of 67, or 1·9 per cent., of the deaths in the twenty-eight towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Leicester, Sunderland, Cardiff, and in six other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Newcastle-on-Tyne, Nottingham, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·9 and 18·0 per 1000, in the preceding two weeks, further declined to 16·9 during the week ending Aug. 1st, and was 2·7 below the mean rate that prevailed during the same period in the twenty-eight large English towns. The rates in the eight Scotch towns ranged from 11·5 in Aberdeen and 15·5 in Edinburgh to 18·5 in Glasgow and 20·3 in Perth. The 436 deaths in these towns showed a decline of 28 from the number in the preceding week, and included 21 which were referred to diarrhœa, 17 to whooping-cough, 4 to measles, 4 to "fever," 3 to scarlet fever, 2 to diphtheria, and not one to small-pox. In all, 51 deaths resulted from these principal zymotic diseases, against 62 and 47 in the preceding two weeks. These 51 deaths were equal to an annual rate of 2·0 per 1000, which was 1·6 below the mean rate from the same diseases in the twenty-eight English towns. The fatal cases of diarrhœa, which had been 22 and 12 in the preceding two weeks, rose again last week to 21, of which 9 occurred in Glasgow, 3 in Edinburgh, and 3 in Leith. The deaths from whooping-cough, which had been 18 and 15 in the previous two weeks, were 17 last week, and included 10 in Glasgow and 4 in Dundee. The 4 deaths from measles corresponded with the number in the preceding week, and included 3 in Glasgow. The 4 fatal cases of "fever" showed a decline of 4 from the number in the previous week; 3 occurred in Glasgow and 1 in Dundee. Of the 2 deaths from diphtheria, one was recorded in Edinburgh and one in Paisley. The deaths referred to diseases of the respiratory organs in these towns, which had been 73 and 80 in the preceding two weeks, declined again last week to 65, and were 12 below the number in the corresponding week of last year. The causes of 36, or more than 8 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 16·4 and 21·2 per 1000 in the preceding two weeks declined again to 18·3 during the week ending Aug. 1st. During the past four weeks of the current quarter the death-rate in the city averaged 18·7 per 1000, the rate for the same period being 18·1 in London and 16·0 in Edinburgh. The 125 deaths in Dublin during the week under notice showed a decline of 20 from the number in the preceding week, and included 4 which were referred to whooping-cough, 1 to diarrhœa, but not one either to small-pox, measles, scarlet fever, diphtheria, or "fever." In all, 5 deaths resulted from these principal zymotic diseases, equal to an annual rate of 0·7 per 1000, the zymotic death-rate during the same period being 4·6 in London and 1·4 in Edinburgh. The fatal cases of whooping-cough, which had been 3 in each of the preceding three weeks, were 4 last week. Only one death from diarrhœa was recorded last week in the city. The 125 deaths in Dublin last week included 22 of infants under one year of age, and 25 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a decline from the numbers recorded in the previous week. Eight inquest cases and 4 deaths from violence were registered during the week, and 43, or more than one-third, of the deaths occurred in public institutions. The causes of 16, or more than 12 per cent., of the deaths in the city were not certified.

THE SERVICES.

DEATH OF DEPUTY SURGEON-GENERAL WILL.

We have to record with much regret the death of Deputy Surgeon-General G. E. Will, the Principal Medical Officer, Devonport. It appears the deceased officer was riding to the station hospital on Friday, the 31st ult., when his horse ran away down a steep hill, and, the stirrup leather breaking, the rider was thrown with great violence on his head, receiving an injury which proved fatal. Deputy Surgeon-General Will served throughout the New Zealand War of 1863–66; in the Egyptian War of 1882, where he was present at Tel-el-Kebir; also with the Nile Expedition of 1884–5 as Field Medical Inspector of the lines of communication, and was awarded medals or clasps for his services respectively. He was but recently promoted to the rank of Deputy Surgeon-General, and placed in medical charge of the Western Division.

ARMY MEDICAL RESERVE OF OFFICERS.—Surgeon Thomas Joseph Compton, 1st Norfolk Artillery Volunteers (Eastern Division, Royal Artillery), to be Surgeon, ranking as Captain, dated Aug. 5th, 1891); Acting Surgeon John Joseph Ardavon Vincent Constantine Raye, 1st Durham Artillery Volunteers (Western Division, Royal Artillery), to be Surgeon, ranking as Captain (dated Aug 5th, 1891).

VOLUNTEER CORPS.—*Artillery:* 2nd Sussex: Edmund Downes, M.D., to be Acting Surgeon (dated Aug 5th, 1891).—*Rifle:* 3rd Volunteer Battalion, the Queen's (Royal West Surrey Regiment): Acting Surgeon R. J. M. Coffin to be Surgeon (dated Aug. 5th, 1891); Surgeon C. P. Shrimpshire is granted the rank of Surgeon-Major, ranking as Major (dated Aug. 5th, 1891).—1st London (City of London Rifle Volunteer Brigade): Acting Surgeon Edgar Alfred Hughes to be Surgeon (dated Aug. 5th, 1891).

Correspondence.

"Audi alteram partem."

THE HYDERABAD CHLOROFORM COMMISSION.

To the Editors of THE LANCET.

SIRS,—In the address on Surgery delivered at the meeting of the British Medical Association at Bournemouth by my friend Professor Chiene, and printed in THE LANCET of Aug. 1st, I observe that there has been apparently an omission in the first column of p. 223, near the middle, of the words, "Surgeon-Major Lawrie, and one of the members of which was." By this omission it would appear as if I had been President of the Hyderabad Commission, whereas my function upon it was to represent THE LANCET, and to suggest such experiments as seemed likely to settle the points in dispute in regard to the action of chloroform. The Commission was admirably presided over by Surgeon-Major Lawrie, and to his energy the Commission owed its existence, although, as he says in a lecture he recently gave at Bombay, few people have really understood the liberality and public spirit displayed by the Nizam himself, his prime minister, Sir Asman Jah, and the members of his Highness' Goverment. I am, Sirs, faithfully yours,

Stratford-place, Aug. 5th, 1891. T. LAUDER BRUNTON.

"A NEW THEORY OF CHLOROFORM SYNCOPE."

To the Editors of THE LANCET.

SIRS,—Under the above heading you state, in THE LANCET of June 21st, 1891, that Syme and Simpson taught, "give the patient good chloroform and plenty of it," and "put the patient as quickly as possible under a strong and overwhelming dose of *the poison*." Neither these words nor any words like them in sense or in meaning were ever used by Mr. Syme.

Syme's teaching is as follows:[1]—"The points that we consider of the greatest importance in the administration of chloroform are—First, a free admixture of air with the vapour of the chloroform, to ensure which a soft porous material, such as a folded towel or handkerchief, is employed presenting a pretty large surface, instead of a small piece of lint, or any apparatus held to the nose. Secondly, if this is attended to, the more rapidly the chloroform is given the better, till the effect is produced; and hence we do not stint the quantity of the chloroform. Then—and this is a most important point—we are guided as to the effect, not by the circulation, but entirely by the respiration; you never see anybody here with his finger on the pulse while chloroform is given. So soon as the breathing becomes stertorous we cease the administration."

It may be left to the readers of THE LANCET to determine whether these principles sanction the mischievous teaching that the right way to produce chloroform anæsthesia is to "put the patient as quickly as possible under a strong and overwhelming dose of the poison," or whether they do not, as we aver, form the foundation of the teaching of the Hyderabad Commission, that the essential factors in chloroform administration, whereby death can with certainty be invariably prevented, are diluted chloroform and regular breathing. There is no uncertainty about Syme's words. I was his last house surgeon, and I know that he never allowed the respiration to be interfered with, and that the principles I have quoted from THE LANCET are those which he taught up to the time of his retirement from the Edinburgh Royal Infirmary in 1869. The exact value of the "new theory of chloroform syncope" may therefore be measured by two facts. One is that the Hyderabad Commission has proved that there is no such condition as chloroform syncope, and the other is that the new theory is based upon views which Syme never held. What I have stated about Syme includes Simpson. At the end of his lecture Mr. Syme said: "All that I have done has been to follow the example of Dr. Simpson."

I am, Sirs, your obedient servant,

EDWARD LAWRIE, Surgeon-Major.

Hyderabad, July 15th, 1891.

*** We quoted the words of Dr. Kirk, who gives the expressions used as proceeding from the lips of Mr. Syme and Sir James Simpson, and we must refer Dr. Lawrie to "Chloroform Syncope," by Dr. Robert Kirk, pp. 9 and 10.—ED. L.

[1] Vide THE LANCET for Jan. 20th, 1855.

THE USE OF CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—The note of warning on the dangers attending the use of chloroform alone in surgical operations addressed to you by Dr. Ormsby will, it is to be devoutly hoped, rouse the attention of the profession to the responsibilities which are incurred when this agent is recommended in preference to other anæsthetics which are found to be comparatively free from the perils attending the employment of chloroform when used alone. Seeing the frequent reports of death from this agent, it becomes a serious question as to whether we are doing our duty to our patients if we choose to submit them to the perils inseparable from its use; of course, if there were no other means of producing insensibility to pain, the patient must be content to undergo a certain amount of risk whilst receiving the enormous amount of benefit by the total abrogation of pain during an operation; but if the same result can be produced by other and much less risky agents, then these should be used. The same principle should guide the surgeon in the use of anæsthetics as he follows in connexion with the general practice of his art. If a patient seeks his advice for the removal of some serious disease by a surgical operation, it is his duty to recommend that method which effects the desired object with the least risk to his life, so in like manner it becomes his duty to employ that form of anæsthetic which is found to be free from most of the dangers attending the use of chloroform. Having seen several deaths from this agent, having had a distressing case of death in my own private practice, besides meeting with repeated instances where the patient was brought to the very verge of the grave, I share Dr. Ormsby's conviction, and have for several years resorted to the use of ether or the mixture of alcohol, ether, and chloroform.

I am, Sirs, yours obediently,

Wimpole-street, W., Aug. 4th, 1891. HENRY SMITH.

THE DANGER OF CHLOROFORM AND THE SAFETY OF ETHER AS AN ANÆSTHETIC.

To the Editors of THE LANCET.

SIRS,—Mr. Ormsby asserts in your issue of the 1st inst. that ether "has been proved by undeniable statistics to be the safest anæsthetic known." Now, Sirs, I think it very unkind of Mr. Ormsby that, although he repeats this statement from time to time, he never gives a hint of where the statistics may be found. I have spent time, trouble, and money collecting information on the relative value of anæsthetics, and yet I have to discover the statistics referred to by Mr. Ormsby. Will he oblige by giving them to

Yours truly,

GEORGE FOY, F.R.C.S.I.

Cavendish-row, Rutland-square, Dublin, Aug. 1st, 1891.

"AN EPIDEMIC OF ECZEMA."

To the Editors of THE LANCET.

SIRS,—I shall be obliged if you will allow me space to make a few comments on the letter from Dr. Savill, which appeared in the last issue of THE LANCET. By the courtesy of Dr. Savill and Mr. Lunn I have had an opportunity of examining the cases of eczema during the present epidemic at the Paddington and St. Marylebone Infirmaries, and also those cases which arose last year at the latter hospital. Many anomalous outbreaks of vesicular and bullous eruptions have occurred at various institutions, but I know of nothing parallel with the present epidemic. It is certainly not scabies or impetigo contagiosa, or pemphigus.

All the cases present the same essential features, and of the many I have seen not one has been distinguishable, in my opinion, from ordinary eczema, as far as the eruption is concerned. Now that the etiology of eczema is undergoing such thorough review, I think the occurrence of this epidemic is of great importance. Dr. Savill and Mr. Lunn are devoting themselves to the solution of the cause with characteristic ability and energy, but evidently the mystery can only be unravelled after a very exhaustive inquiry. I trust Dr. Savill's letter will attract the attention of the profession, as it is essential to determine whether the epidemic is confined to the two infirmaries or exists also outside.

I am, Sirs, your obedient servant,

Harley-street, W., Aug. 1st, 1891. T. COLCOTT FOX.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of August 1st there is a letter from Dr. Savill narrating a series of cases, apparently of eczema, occurring within a few days of each other, in a large number of the patients in the Paddington and St. Marylebone Infirmaries. Under the heading "Is Eczema Contagious"? I published in THE LANCET of June 23rd, 1888, p. 1245, brief notes of eight cases of eczema occurring in the same family, which it seemed to me impossible to account for except on the theory that it had spread from one person to the other by contact. These cases, like those in the Paddington Infirmary, presented "the typical appearance of vesicular eczema," and I was able positively to exclude scabies for the same reasons by which Dr. Savill is able to exclude it. Since the above date I have seen several other instances in which vesicular eczema has spread among inmates of the same house—instances which give a great deal of support to the theory of contagion. Whether, as Dr. Savill suggests, it is owing to "some epidemic influence or some specific organism," I, for one, with the greatest deference to all the authorities who state the contrary, shall continue to believe that vesicular eczema may spread from one to several inmates of the same dwelling within brief periods. Dr. Savill states that he is making cultures from the exudation. It will be interesting to hear the result. I was under the impression that I had seen it reported in THE LANCET within the last few weeks that some continental observer had succeeded in isolating the bacillus of eczema, but on looking back I have not been able to find the paragraph. I am, Sirs, yours truly,

Worthing, Aug. 3rd, 1891. EDWARD A. OPIE.

PROPOSED INCREASE IN THE NUMBER OF DIRECT REPRESENTATIVES ON THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—As your readers may be aware that I have, at the two last meetings of the British Medical Association, brought up a motion in favour of the above, I should like to call attention to the statement made by Dr. Wade—viz., that the Privy Council has no right to order an increase in the number. Let us remember that we have asked the General Medical Council to petition the Privy Council on this subject, and that the Medical Council has refused.

I shall call attention to Section 19 of the Medical Act, on which we base our action. It is as follows: "If at any time it appears to the Privy Council that the General Council has failed to secure the maintenance of a sufficient standard of proficiency at any qualifying examination, and that occasion has arisen for the General Council to appoint assistant examiners under this Act, for the purpose of examinations held by any medical corporation, or to *exercise any power or perform any duty, or do any act or thing vested in, or imposed on, or authorised to be done by, the General Council under the Medical Act or this Act*, the Privy Council may notify their opinion to the General Council; *and if the General Council fail to comply with any directions of the Privy Council relating to such notification, the Privy Council may themselves give effect to such directions*, and for that purpose may exercise any power or do any act or thing vested in or authorised to be done by the General Council, and may *of their own motion* do any act or thing which under the Medical Acts or this Act they are authorised to do in pursuance of a representation or suggestion from the Medical Council." Let me add, there is no time to lose, for the election comes on in three months, and we shall not have another opportunity for five years. We cannot be beaten in a fair fight. No doubt as much obstruction and quibbling will be raised as is possible.

The following is the legal opinion given by Mr. A. Commins, barrister-at-law, Liverpool:—"As the General Medical Council have refused to move in the matter, I am of opinion that the Privy Council may now give them directions to do so, and, in case of their further refusal or neglect to act on such directions, may of their own motion increase the direct representation of the medical profession on the General Medical Council to the extent provided by the Act of 1886. The law stands thus:—The seventh section of that Act provides for the election of five direct representatives of the profession on the General Council—viz., three for England, one for Scotland, and one for Ireland. Section 8 provides the mode of election of these members. Section 10, subsection 1 (*c*) gives power to the General Council to represent to the Privy Council that it is expedient to confer upon the registered medical practitioners resident in any part of the United Kingdom (which parts have been already fixed by Section 7 as England, Scotland, and Ireland) the power of returning an additional member to the General Council. Section 19 provides that if it appears to the Privy Council that the Medical Council have failed to exercise any power or perform any duty or do any act which they ought or are authorised to do under the Medical Acts, the Privy Council may notify to them their opinion upon the matter and give them directions thereupon, and if they fail to comply with such directions, the Privy Council may itself then give effect to such directions, and for that purpose *may of their own motion do any act* which under the Medical Acts it is authorised to do in pursuance of the representation from the General Medical Council. Section 10, Subsections 2 and 3, prescribes the *modus operandi* by which the Privy Council may proceed to do any such act. As by the same section increasing the direct representation of the medical practitioners resident in any part of the United Kingdom is one of the acts which the Privy Council may do upon the representation of the General Medical Council, and as that Council refuses to make such representation, the Privy Council may therefore do it *of its own motion* in the prescribed manner." I am, Sirs, yours truly.

Liverpool, Aug. 3rd, 1891. ROBERT R. RENTOUL.

ALCOHOL AS A SEDATIVE.

To the Editors of THE LANCET.

SIRS,—When hearing Dr. Wilks' interesting and practical discourse on the use of Alcohol as a Sedative in some cases of Nervous Excitement, I had brought to my remembrance a case of enteric fever in which brandy answered remarkably well in quieting delirium. A girl under my care at the West London Hospital became violently delirious in the course of fever, getting constantly out of bed, pulling down the pictures on the wall, and resolutely spitting out every form of medicine that was presented to her. We found, however, that she would swallow brandy, and I ordered her free and repeated doses of this spirit, with the effect of calming the delirium in a most marked way, and convalescence followed in due course. I urged the brandy treatment with all the more confidence as, only a few days before, the late Sir William Gull had been impressing upon me the great use of alcohol in quieting these cases of febrile delirium. In cases where there is evidence of overfulness of the right side of the heart, as happens often in pulmonary diseases, such as bronchitis and broncho-pneumonia, alcoholic stimulation can easily be carried too far, and the venous system becomes then much engorged and congested. I have seen remarkable recovery take place in the cases of children ill with broncho-pneumonia, who had been very freely stimulated without any benefit, but rather with every prospect of going from bad to worse, by leaving off all alcoholic stimulants and giving small doses of tartarated antimony in conjunction with sulphate of magnesia, with a view to deplete the overgorged venous system.

I am, Sirs, yours obediently,

JOHN C. THOROWGOOD, M.D., F.R.C.P.

Welbeck-street, W., Aug. 6th, 1891.

HEARING TESTS FOR SEAMEN.

To the Editors of THE LANCET.

SIRS,—In THE LANCET for 1889 (vol i., page 727) I endeavoured to point out how much depended on the accuracy of a sailor's hearing and how little had been done in the matter of ensuring that a ship's navigating executive were possessed of normal ears. What I said was endorsed by you in an annotation on page 800 the following week. As I am of opinion that the subject should not be allowed to drop, may I draw your attention to the experiments at the Naval Exhibition on "International Tone Signals" as reported in to-day's *Times* (Aug. 4th)? Mr. W. B. Chalmers has invented an instrument on the principle of an organ, but worked with high pneumatic pressure through the aid of a key board. Its success depends on the facts that a pure tone penetrates much farther than mere noise, and that a code can be worked with a limited number of notes. Such a system is badly needed, and if adopted will strengthen the necessity for making sure that the officers and men can hear properly with both ears. Some time ago Mr. Bickerton of Liverpool drew my attention to a fact not generally known in the profession. During the disastrous collision between H.M.S. *Iron Duke* and *Vanguard* in a fog off the Wicklow coast it appears that one of the "look-out" men was actually deaf in the ear which was on the side of the approaching vessel. This was brought to the notice of the House of Commons by Lord Brassey, and reported in "Hansard." I know of only one steamship company—the Cunard of Liverpool—who take the precaution of having their officers and men examined for hearing as well as for sight. All candidates for certificates are examined by the Marine Department of the Board of Trade for vision and colour. The Board also make what are meant to be elaborate regulations for signalling and safety in fog, but they take no steps whatever to test a candidate's power of hearing. The importance of this subject can be fully appreciated only by those who have been at sea or in crowded waters during dense fog. The experiments at the Naval Exhibition again show how increasingly important the subject is, and I trust that some reasonable measures may soon be taken to protect lives and property in moments of supreme danger from the blunders and bungling of men whose imperfect senses are not those of the standard or normal man.—I am, Sirs, yours faithfully,

FRANCIS EDWARD CANE, L.R.C.P., L.R.C.S. Edin.

Piccadilly, W., Aug. 4th, 1891.

DELAY IN OBTAINING JUSTICES' ORDER IN LUNACY CASE.

To the Editors of THE LANCET.

SIRS,—Having had occasion this week to remove to an asylum a non-pauper lunatic, I sought the services of a magistrate. Before obtaining the signature of one of these gentleman, I made no less than eight applications to seven justices, the seventh consenting to do what was required. In order to obtain this favour the patient and I had to travel thirteen miles out. The lunatic spent five hours in the carriage and I seven hours on the road. The nature of the case did not demand the urgency order. This search for a justice who would act occupied a period of two days. I need hardly say how it affected the physical comfort of the patient and the working of my practice.

I am, Sirs, yours truly,

Aug. 1st, 1891. PROVINCIAL F.R.C.S.

"TELEPHONIC COMMUNICATION BETWEEN THE LONDON HOSPITALS."

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to Mr. Davy's letter in your issue of the 1st inst. He apparently is not aware that there is telephonic communication between this hospital and the Westminster, and that it is used by the secretary of that hospital and myself for the purpose he advocates. There is one little inaccuracy I should like to correct. The reason for the boy not being admitted here was because there was no bed, not because he had been previously treated at Westminster.

I am, Sirs, your obedient servant,

ARTHUR E. READE, Secretary.

Charing-cross Hospital, Aug. 4th, 1891.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Cruelty to Children and Almsgiving.

THE cupidity of some parents and the profitableness of begging by children as a trade were forcibly illustrated by two cases which came before the local stipendiary magistrate some days ago. In the first case the boy had, by crawling on his knees on the pavement, contracted a bursa on each knee, and earned by so doing a sum stated to average 8*s.* a day, all of which went to his mother. The boy was carried to and from the locality where he excited the compassion of the passers-by. On her promising to send him to be an in-patient of the Royal Infirmary his mother was let off with a fine of 10*s.* and costs. In the other case the boy, a cripple, was taken every day by his sister to the Exchange flags, where he attracted the attention of gentlemen by pulling their coat tails, and their compassion by his pitiable appearance. It was said that 10*s.* a-day were his daily average earnings. Those who sternly refuse to give to beggars in streets have every justification for their conduct.

The Murder and Mutilation of a Boy.

The trial of John Conway for the murder of the boy Nicholas Martin, on May 16th last, commenced on July 31st, and concluded on the following day with a verdict of guilty. The case presented some features of medical interest, and was a very remarkable instance of circumstantial evidence; the chain, which was formed by the evidence of nearly forty witnesses, given independently of each other, being complete in every link. The facts were as follows:—At an early hour on the morning of Tuesday, May 19th, a black bag was seen floating in the Sandon Basin by the dock-gates men on duty, and was brought to land. It was found to be a black water-proof bag, such as is used by sailors, and to contain the dead body of a boy, each of the legs having been removed by a knife and saw, not for wanton mutilation, but to enable the body to be got into the bag. Inside the bag, and covering the body, were also found two blankets, some brown paper, with an irregular piece torn off it, containing part of a label, the rest of which remained, a knife, and saw. The body was removed to the mortuary at the Prince's Dock, and carefully examined by Mr. Paul, F.R.C.S., professor of medical jurisprudence at the Liverpool University College. The throat was cut in such a manner as to show that it was the cause of death, while the appearance of the severed limbs showed that they had been amputated after death, and after rigor mortis had set in. The next day (May 20th) a post-mortem examination was made by Mr. Paul and Mr. Lowndes, surgeon to the Liverpool police, when it was found that the wound in the throat was exactly six inches in length. It commenced on the left side at the edge of the sterno-mastoid an inch and a half below the jaw, and ended under the right ear. The divided tissues were retracted, and there were coagula in the wound. The larynx was severed through the crico-thyroid membrane; the only vessels implicated were the right jugular veins, the external one being severed and the internal one opened. No artery was wounded. The wound was a perfectly clean sweep from left to right, and must have been done by a sharp weapon. There were no indications that the boy had been abused. There were some abrasions on the face, the right leg had been severed two inches and a half, the left an inch and a half below the knee; the skin and muscle were divided by clean, circular cuts; the bones were evenly and smoothly sawn. The stomach contained partly digested bread food; it was removed for more minute examination, and Mr. Davies subsequently obtained twenty-six grains of absolute alcohol by distillation from the contents. The body was identified by the parents, and within three days the police had obtained evidence which enabled them to discover the prisoner and the chain of evidence which he had wound round himself. He was seen in company with the deceased boy on the evening of May 16th between 9 and 9.30 P.M. The boy's last meal consisted of bread-and-butter, tea, and an egg; this was between 6 and 7. He was never seen alive again, but the prisoner was seen later on that evening carrying a pair of boots such as had been worn by the boy: these were subsequently picked up, having been thrown over walls, as was also a a razor identified as belonging to the prisoner. On Monday the 18th he purchased the bag in which the

body was found, some soda, a knife, blankets, bucket, and scrubbing-brush. He was seen on the evening of that day bringing the bag, which was full and heavy, out of the house, 19, Stanhope-street, which he used as an office, refusing all help and putting it himself into a cab. He was driven down to the pier head and was seen to carry the bag on to the landing-stage. The tide would then be on the ebb, the flow returning in a few hours. In the upper room of the house was found on the floor a large stain which Mr. Paul found to consist of blood and soda. Under the planks was found a large quantity of blood, and spots were found in different parts of the room. Spots of blood were also found on the prisoner's coat and trousers and on the razor. In the oven were found several pieces of brown paper, one piece of which had a label on it, and exactly fitted the piece wanting in the sheet of brown paper which was round the deceased's body. The learned judge (Justice A. L. Smith) expressed his perfect concurrence with the verdict, and in sentencing the prisoner to death held out no hope of mercy.

Aug. 6th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Gateshead Disaster.

THE remains of the missing workman Heslop, in whose attempted rescue six of his fellow-workmen lost their lives, were recovered on Saturday, and were found almost wholly cremated by the furnace. The funerals of the other victims have taken place, and were very largely attended. A fund has been opened for the relief of the orphans and widows left unprovided for. Various causes are assigned for the fall of the first tower, and it is likely that various causes were in operation; for instance, it is shown that by the dredging now constantly going on to deepen the Tyne many riverside structures are weakened in their foundations. The towers stood on a peninsula of ground near the river, and the late heavy rains would have the effect of loosening their foundations. On this and other points we must await the result of the coroner's inquiry, which has been adjourned to the 26th inst. *Apropos* of the disaster, a few years ago an important chemical factory one morning was missing, having slipped into the river, but in this case there was fortunately no loss of life.

Nursing in Workhouses.

At Gilsland last week a conference of the local government administration for the four northern counties took place, and was the largest ever held during a period of twenty years. Mr. C. S. Hall, medical officer to the Carlisle Union Infirmary, read an interesting paper on Nursing in Workhouses, in which he urged the desirability of employing trained nurses, and described a scheme which might apply to an infirmary of one hundred beds, his idea being that they should employ a superintendent nurse at £50 per annum, with residence, an assistant trained nurse at £25, and a number of probationers, who should be selected from the middle class. He spoke of the defects of pauper nursing, and said it was a great hardship to leave poor people all night dangerously ill, and some of them dying, in the hands of pauper nurses. The reading of Mr. Hall's paper gave rise to a most interesting discussion, in which the cutting-out, root and branch, of pauper nursing was advocated by several speakers. Mr. Dodd, chief surgeon to the Newcastle Workhouse Infirmary, and other speakers held that in large workhouses the hospital should be separated—that is, the master and matron should have no control over the infirmary department. It was also urged that in large hospitals a separate wing or ward should be set apart for sick children. Dr. Ainsley of Hartlepool brought forward some statistics, showing that of twenty-two provincial workhouse infirmaries the nursing staff was one nurse to forty patients, and out of four in London the average was one to fourteen patients. In the general hospitals throughout England the average was one nurse to ten patients.

Ambulance Work in the North.

On Saturday last an ambulance review and sham fight on an extensive scale took place in Bishop Auckland Park, kindly lent by the Bishop of Durham. Surgeon-Major Hutton of Leamington, of the St. John headquarters, inspected, and the whole proceedings were regarded as highly satisfactory, nearly £90 being received at the gate. On the same day an ambulance parade and inspection were held in Upleatham Park, by the permission of the Earl and Countess of Zetland, who afterwards presented the certificates and medallions to the classes.

Friendly Societies' Demonstration.

A great demonstration of friendly societies also took place at Darlington in favour of the North-eastern Convalescent Home at Grange, and a meeting was held in the park, where addresses were delivered by the local M.P.'s and other prominent citizens. About 6000 persons attended, and a substantial amount was received in aid of the home.

Newcastle-on-Tyne, Aug. 5th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Queen's College, Galway.

DURING the past session there was a total of 111 students on the College books, being a decrease of eleven as regards the previous session. In the Faculty of Medicine there were thirty-seven entries. The President, in his annual report, alludes to the Galway Infirmary, the efficient working of which institution he regards as not only a matter of vital consequence to the medical school of the College, to which it has always afforded the principal means of clinical instruction, but also of high and increasing importance to the inhabitants of the county. A movement having been set on foot in Galway to remodel the constitution of the infirmary and extend its sphere of usefulness, a commission was appointed by the Lord-Lieutenant to take evidence and report on the matter. The Commissioners recommended a scheme of reorganisation, which, if carried out, the President is of opinion cannot fail to be of signal benefit to the community, and especially to the medical school of the College. He adds that the people of the county are practically unanimous in approval of the suggested legislation, and that it is not proposed to add to the charges on the public purse or to increase local taxation. The gist of the scheme is that the medical professors of the College shall act as honorary surgeons and physicians to the infirmary, thus placing at the disposal of the institution the services of the five medical professors in medicine, surgery, and midwifery. The Dublin hospitals receive a large Parliamentary grant, one of the reasons for its issue being the importance of securing efficient clinical instruction for students who may afterwards enter the public service. The medical school of the Galway College depends mainly on the county infirmary for opportunities of clinical teaching, and it may fairly be claimed that it is also not undeserving of support on public grounds. The library and museums are in a very satisfactory condition, and are most valuable collections. The Council has largely extended the benefits of the library to the people of Galway, who highly appreciate the advantage, it being the sole library of reference and consultation in the west of Ireland.

Lunacy Administration.

The committee appointed by his Excellency the Lord-Lieutenant to inquire into the lunacy administration of Ireland, report that they consider fresh lunacy legislation for Ireland to be absolutely necessary. They strongly recommend the creation of a separate lunacy department, and consider that, having regard to the great extent and variety of the administrative duties of the Local Government Board, it would be better both in the interests of the insane and of those affected by the present work of that department to constitute for Ireland, as already exists in England and in Scotland, a lunacy board charged with the care and supervision of all classes of lunatics. This is what was strongly recommended by the Lunatic Asylums (Ireland) Commission of 1858. To meet the pressure for increased asylum accommodation the committee suggest that it be considered whether some of the empty workhouses could not be acquired and converted into provincial asylums. If this were done, the buildings would cease altogether to be workhouses, and would be as unconnected with the Poor-law authorities as district asylums. In this way increased asylum accommodation might be cheaply obtained in those cases in which extensive struc-

tural changes would not be necessary for the conversion of the workhouse accommodation into asylum accommodation, and in which the acquisition of additional land would not be needed. If it were found that some of the wholly unoccupied workhouses could without delay be converted into provincial asylums, and if arrangements were made with other workhouses having a large amount of unoccupied accommodation to receive lunatics under Section 9 of the Act of 1875, the overcrowding of the district asylums would receive a check, time would be given for maturing permanent arrangements, and the further erection of costly additions to district asylums would be prevented.

Aug. 4th.

PARIS.

(FROM OUR OWN CORRESPONDENTS.)

Antipyrin in the Incontinence of Urine in Children.

MANY methods of treatment have been proposed and employed in incontinence of urine in children—belladonna and strychnine by Trousseau, electricity by Guyon, bromides, certain mechanical procedures, &c. All, or nearly all, of these have been attended with success at times, but none is infallible—where one fails another remedy may succeed. Antipyrin is now put forward by M. Gundez, who claims for it a place amongst the best of remedies in the therapeutics of this troublesome and common affection. Out of thirty-seven cases treated by this drug, nineteen were completely cured, fifteen much relieved, and in three only did the remedy completely fail. According to M. Gaudez, these results are much superior to those of other therapeutic measures. He administers it in wafers containing from seven to fifteen grains, or in a mixture. This latter may have from twenty to sixty grains, according to the age of the child, to be taken in divided doses with two hours' interval. The time at which the medicine should be given is of importance. Thus he found that a child who took the last dose at 8 P.M. would not micturate before 5 A.M.; while if taken later, between 9 and 11 P.M., the incontinence was often entirely suppressed, even in the second half of the night. In cases where the antipyrin treatment was successful, the improvement was manifest early; but it is advisable that it be kept up for at least fifteen days in order to insure a cure. The sensibility of children to the action of antipyrin is variable. Some who are not affected by twenty or thirty grains are cured by sixty grains. Sometimes the incontinence will return, in which case the dose should be increased and the drug long continued. Antipyrin is well borne by children as a rule. In one of the cases cited there was some gastro-intestinal disturbance of slight moment, and in another a cutaneous eruption which soon subsided.

The Functions of the Trachea in Voice Production.

At a recent meeting of the Academy of Medicine, M. Nicaise read a paper on the Functions of the Trachea in Singing. It results from his researches that the trachea plays an active *rôle* in the production of ordinary phonation in singing. It is narrowed and shortened during inspiration, while it is lengthened and dilated in expiration. During simple phonation it is dilated; speech and singing are impossible when the trachea is in a state of contraction. It is not therefore an inert, but an elastic tube. During inspiration the pressure of the air in it and in the bronchi is negative, but during expiration it is positive, markedly so in high notes with elevation of the larynx and dilatation of the trachea. Over and above its function as the conducting tube of the air, the trachea therefore serves in voice production. The air is impelled towards the glottis by two forces—the contraction of the expiratory muscles, which are under the control of the will and susceptible of a special education, and that of the bronchi and trachea, which is involuntary. Harmony between these two forces determines the perfection of the notes. Any alteration in the structure of the trachea causes a modification in the intensity and *timbre* of the notes, such as may be observed in old age, when the membranous portion atrophies, becoming thin and flaccid. An abuse of function amongst singers and street criers may also bring about special alterations, such as persistent dilatation.

Danger of Gas in Trains.

MM. Brouardel, Socquet, and Vibert are of opinion that several of the victims of the recent regrettable railway accident at Saint Mandé were asphyxiated by the escape of the coal gas which served to light the carriages, and it is very properly pointed out that if the train were lighted by electricity the added horror of coal-gas suffocation might have been spared the unfortunate people.

The Future of Medicine Threatened.

M. Levraud, himself, by the way, a medical man and President of the Municipal Council of Paris, has just received a cheque for 100,000 fr., or £4000, from a Russian gentleman resident in Paris. The cheque has been deposited by the President in the municipal counting-house while awaiting the decision of the Council as to the acceptance or refusal thereof. The object of this Russian philanthropist is to introduce a system of medical reform into the hospitals of Paris, as a result of which, he considers, many lives will be saved and much money economised. Should the reform prove successful, the same generous donor undertakes to found a hospital for the poor on the new system. The money deposited is intended as a means for trying the experiment in the hospital of Paris in which the greatest mortality at present occurs. We are not told precisely what the second "Novum Organon" is, but we are comforted by the assurance that it implies a reliance on the remedies indicated by nature, and the eventual suppression of doctors and medicinal drugs.

The Tuberculosis Congress.

During the week ending August 1st there was held here the second Congress on Tuberculosis, under the presidency of M. Villemin, who may be considered as the founder of the doctrine of the infectivity of tubercle.

Paris, Aug. 4th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Unpublished Anatomical Works of Goethe.

IN looking through the "Goethe and Schiller Archive" in Weimar Professor Karl Bardeleben of Jena has discovered a series of hitherto unknown anatomical writings by the poet Goethe. Dr. Bardeleben will report on his discoveries in detail in the next volume of the "Goethe Annual" (Goethe-Jahrbuch); meanwhile, however, he has written a brief account of them for the "Anatomical Advertiser" (Anatomische Anzeiger). The writings in question consist of three manuscripts of considerable length and importance, and a number of short notes. The first of the three is the first draft of the famous essay on the intermaxillary bone, of the year 1784, announcing Goethe's discovery of the said bone in man, the absence of which had hitherto been regarded as one of the main marks which distinguish man from the lower animals. Besides the text, Dr. Bardeleben found a series of illustrative drawings (originally seventeen in number) and a bundle of notes containing the not yet published details of the relevant osteological conditions in a large number of higher and lower mammalia. One of the most interesting items of the discovery is the letter in which Goethe announced his discovery to Soemmering, who was just on the point of complying with a call to Mayence. It runs thus:—"With the sincere wish that the change of your abode may redound to your happiness, I send you some attempts at osteological drawings stitched together with a view to laying before you a little discovery which I believe I have made. If, however, I should be mistaken and tell you only something already known instead of a novelty, as I believe, forgive me, for, though my occupations do indeed permit me to cast a glance at nature and at the books which teach us to know it, it is impossible, in my position, to be accurately informed of what others have discovered before us." Not less interesting is the letter in which Loder of Jena, the only professional anatomist who at once unreservedly recognised Goethe's discovery, congratulated him after reading the manuscript. "I return you," he writes, "the essay most kindly communicated to me with the sincerest thanks. Its perusal has given me so much pleasure, and your precision in anatomical description as well as your insight into the physiology of the part have inspired me with so much admiration, that I quite seriously regretted in my anatomical enthusiasm that you are a minister and not a professor of anatomy. But you will answer me, as the Emperor Leopold answered a musician who, after his Majesty had played him something on the piano, threw his arms round his neck in ecstasy, and regretted that he had not become a musician:

'We're not ill off as it is.'" Besides the essay on the intermaxillary bone, Bardeleben communicates two anatomical essays, both unfinished, but showing that Goethe pursued his studies in comparative anatomy with far-sighted sagacity and with no less an ultimate aim than that of gaining a uniform basis for the conception of the various animal forms. The first of the two has reference to osteology in general. Only the first part, treating of the comparative anatomy of the skull in mammalia, is finished, and Bardeleben believes it to have been written in the summer of 1794. The second essay, treating of the forms of animals, was written at Breslau four years before, and throws much more light on Goethe's conception of the nature of comparative anatomy than the first. After careful study of these essays, Bardeleben concludes that the frequent assumption of Goethe having been a pre-Darwinian Darwinite must be subjected to strict criticism. "Whether or how far," he says, "one is justified in designating Goethe as a forerunner of Lamarck or Darwin, I do not wish to discuss here in detail. It seems to me, however, after a thorough study of Goethe's works, especially these newly discovered ones, that he did not go beyond an ideal thought or constructed type, and that the idea of man's descent from lower animals, of a real blood relationship among the latter and between them and man, was far from him."

The Assembly of German Naturalists and Medical Men.

At the Assembly of German Naturalists and Medical Men, which is to meet in Halle on Sept. 21st, the discussion of Koch's treatment of tuberculosis will be resumed once more. In the section for internal medicine Dr. Aufrecht of the City Hospital in Magdeburg will deliver the opening lecture; in that for children's diseases Professor Ranke of Munich, Professor Ganghofer of Prague, and Dr. Leser of Halle will report their experience; while Dr. Unna of Hamburg, Dr. Schimmelbusch of Berlin, and Dr. Kromayr of Halle will speak in the section for diseases of the skin.

Popular Instruction in Hygiene.

The Prussian Minister of Religious, Educational, and Medical Affairs has advised the presidents of the Prussian provinces to do all they can to further the circulation of the "Rules for the Tending and Nutrition of Children in the First Year of Life, and for the Tending of Lying-in Women," and "Measures to be Taken in Cases of Measles, Scarlet Fever, and Diphtheria," drawn up by the Society of the Medical Officials of the Government District of Düsseldorf, especially among midwives, register officials, members of women's societies, teachers, and medical men.

German Death-rates for the week which ended on the 18th ult.

Krefeld, 9·7; Bremen, 14·1; Frankfort-on-the-Maine, 14·8; Strasburg, 15; Barmen, 17·2; Stuttgart, 17·7; Altona, 18·2; Hamburg and Dresden, 18·8; Leipsic, 19·5; Elberfeld and Aix-la-Chapelle, 19·9; Nürenberg, 20; Dantzic, 21; Hanover, 22; Berlin, 22·2; Cologne, 22·7; Düsseldorf, 23·5; Magdeburg, 24·3; Munich, 28; Breslau, 31·9; Chemnitz, 32·5; Königsberg, 34·5; Stettin, 39·6 The death-rate of Amsterdam in the same week was 15·7; Dublin, 16·3; London, 16·9; Copenhagen, 20; Paris, 20·6; and Liverpool, 24·4.

Owing to the absence of certain officials on summer leave, the Bergmann-Hahn affair remains for the present, at least so far as the public is concerned, *in statu quo*.

The postal authorities in Dantzic have ordered investigations to be made with a view to ascertain whether telephones are a medium of infection.

The establishments for the training of physicians and surgeons for the Prussian army celebrated the anniversary of their foundation on the 1st inst.

Berlin, Aug. 4th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Medical Practice in New South Wales.

THE general election which has just taken place in New South Wales has placed but one medical man in Parliament. Dr. Hollis, who has been elected by a very large majority in the Labour interest for Goulbourn, is a young graduate of the Sydney University, and has the reputation of being a clear-headed, able thinker and a clever debater. The medical profession in Australia is practically powerless in political matters. This is in striking contrast to Canada, where, as your correspondent points out, nearly a score of doctors were returned to the House of Commons. This utter powerlessness of the medical profession in Australia is probably the reason why the laws affecting the profession are in such a scandalous condition, and with no immediate prospect of being reformed. Within the last year or two, however, an effort has been made to organise the medical men for the protection of their professional interests. In New South Wales associations have been formed to counteract the pulling down of the very small fees paid by clubs, lodges, and societies for medical attendance. The club system prevails to an alarming extent in these colonies. This is mainly owing to the high fees charged for private attendance. The ordinary private fee for advice, or advice and medicine, is half a guinea, which is not a small amount to workers, tradesmen, and persons holding positions with small salaries. Consequently these people join clubs, pay from £1 to £1 10s. a year, and for that sum are entitled to as much medical attendance as they wish. As these members grow rich they still remain in the clubs, and it is no uncommon thing for a club doctor to attend patients who are members of Parliament, mayors of towns, and leading wealthy citizens at sixpence a week. Of late there has been an attempt—in many cases successful—to reduce this payment of 6*d.* a week to 4*d.* or less. The method has been for the friendly societies and the various lodges to group together, establish a central dispensary, and put one or two medical men in charge at a fixed salary. By this means they economise very largely, and, on the whole, the societies appear to be well satisfied with the arrangement. To counteract this, associations of medical men have been formed, the members of which pledge themselves to have nothing to do with the friendly societies, and to boycott in every way any qualified man who acts for them. Up to the present, the only success gained has been that the boycotted dispensaries have found it difficult to get medical attendants; but with our much overstocked profession I do not apprehend that that difficulty will continue. As the medical association is practically a trade union there is a movement amongst certain of its members to affiliate their union to the workmen's unions under the Trades and Labour Council. Such an act would have its advantages, but the disadvantages would be great. To mention only one. If a general strike were ordered by the Trades and Labour Council it would be manifestly impossible for the doctors to go out on strike and refuse to attend "blackleg" patients until their fellow unionists' wrongs were righted. But we are moving so fast in such matters that what appears to be an impossible line of action at the present moment may be found perfectly feasible hereafter.

Death under Chloroform.

Since the beginning of this year not a month has passed that I have not chronicled a death from anæsthetics. The latest death occurred at the Prince Alfred Hospital, Sydney. The patient was suffering from cancer of the tongue, and a mixture—proportions not stated—of chloroform and ether was being used. Shortly after commencing the administration the man died. In this same institution there were three deaths last year in three successive weeks, and in each case the unfortunate results were caused by chloroform. Notwithstanding, ether is only rarely used in the colonies. *A propos* of the chloroform deaths at the Melbourne Hospital, one of the surgeons writes as follows in a journal of which he is part editor:—"It appears that chloroform is the agent invariably used, and that it is always administered by the resident medical officers. Two questions immediately suggest themselves—Is it wise to rely solely on one anæsthetic for all cases? Are the resident officers sufficiently competent anæsthetists when first appointed? The last question may be considered first. *It is true that a resident officer, when newly appointed, may have to give chloroform for the first time in his life*, and perhaps not to the most suitable patient. It is hardly correct, however, to say, as has been asserted, that the newly appointed officers have never had any experience of, or instruction in, the administration of the drug. During their student curriculum they have had theoretical lectures on the subject, they have watched the procedure hundreds of times, and they have had occasional practical demonstrations from members of the staff. On the whole, most resident officers may be considered sufficiently competent." The italics are mine. It is, under the circumstances, scarcely matter of wonder why there are so many deaths under anæsthetics at the Melbourne Hospital.

June 29th.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary Examinations, and having conformed to the by-laws and regulations, were on Thursday, July 30th, admitted Licentiates and Members of the two Colleges respectively:—

Alexander, Edward Henry, Dunedin, New Zealand.
Anderson, Winslow, M.D., California, Baker-street.
*Andrew, Bennet Harvey, King's College.
Angus, Henry Brunton, Newcastle-on-Tyne.
Archdall, Henry Stewart, Manor-road.
Arthur, Francis, Clapham.
Atkins, John Francis, Brmingham.
Atwool, William Tillinghast, Hyde-park.
Badcock, Henry John Francis, Southend.
Bamford, Thomas, Regent's-park.
Banks, Alfred, Clapham.
Barnes, Leonard Stewart, Streatham-common.
Berkeley, George Harold Arthur Comyn, Clapham-common.
Black, Arthur Campbell, Kensington-gardens-square.
Blomfield, Edward Eldridge, Stoke Newington.
Bond, Francis Spencer, Paddington.
Broadbent, John Francis Harpin, Portman-square.
*Broadhurst, William James, West Hampstead.
Brook, Tom Stanbury, Plymouth.
Burnett, John Ridley, Carlisle.
Burton, William Edward, Liverpool.
Byass, Thomas Spry, Sussex.
Carolin, George, Richmond.
Carter, Thomas Moravian, Bristol.
Chalmers, Albert John, Manchester.
Chidell, Claude Churchill, Ladbroke-gardens.
Clarke, Harry Ward, Richmond.
Clemmey, William Newlands, Bootle.
Cockill, Thomas Treffry, Middlesex Hospital.
*Collinson, Thomas Arthur, King's College.
Craig, Maurice, Forest Hill.
Dalton, Frederick James Abercrombie, Caroline-place.
*Davies, Pryce Edward, Liverpool.
Davies, Thomas Benjamin Philip, Milford Haven.
Dixon, Arthur, Stockport.
Dobinson, Edward Miall, Lee.
Dowling, Norman, Clapham.
Eccles, Herbert Annesley, Upper Norwood.
Elsworth, Richard Cogswell, M.B. Edin., Edinburgh.
Emmett, John William, Anerley.
Fooks, Walter Pemberton, Crayford.
Francis, Harvey, Harrow-road.
Fraser, John Ernest Sullivan, Herne-hill.
Fuller, John Reginald, St. Mary's Hospital.
Gane, Arthur Gladstone, Torrington-square.
*Graham, Sydney Dalton, St. George's.
Greaves, Henry, Twickenham.
Griffith, Joseph, M.D. Edin., Cambridge.
Grosvenor, Alfred Augustus, L.S.A., Maida-vale.
Haig, Patrick Balfour, Dollarfield, Dollar, N.B.
Harris, Percival Seymour, Camden-square.
Haye, Claude, Myddelton-square.
Hemingway, John, Ealing.
Hern, George, Ealing.
Hogarth, Robert George, Salisbury.
Holmes, Charles Denton, Liverpool.
Holst, Otto Leonard, Mornington-road.
Hope, Hubert Lindsay Curling, Hastings.
Hotchkis, Robert Dunmore, Cookston, Paisley, N.B.
Hulbert, Joseph George, Colnehurst, Wetford.
Humphry, Arthur Dumville, Brighton.
Ingall, Frank Ernest, Ashford, Kent.
James, Rupert, Mornington-place.
Jewell, John William Frank, Peckham-rye.
Johnson, Harry Oswin, Mile-end.
Johnston, Dudley Cater, Balham.
Jones, Alfred Stanley, Mornington-road.
Jones, George, Stepney-green.
*Kelly, Charles Ernest Mackenzie, Manchester.
Kennedy, William Willoughby, Lewisham.
Knott, Edward Millward, Castlebar, Ireland.
Lane, Harry Angell, Turner-street.
Lathbury, Arthur Edward Anthony, City-road.
Lawrence, John, Millman-street.
Leeder, Forrest Bertram, University College Hospital.
Longden, Duncan Campbell, M.B. Edin., Edinburgh.
Lucy, Sidney Herbert, Bristol.
*Mack, Hans Hamilton, London.
MacLeod, Charles Edward Alexander, Herne-hill.
MacLeod, Ewan Cameron, Pimlico.
MacNeal, James, South Norwood.
Madge, Arthur Ernest, Upper Wimpole-street.
Maidlow, William Harvy, Croydon.
Manknell, Arthur, Leeds.
Marson, Cyril Darby, Stafford.
Mayo, Walter Cyril, Leeds.
Michels, Ernst, M.D. Berlin, Montague-place.
Miles, William Ernest, Ampton-street.
Mills, Herbert Henry, Fulham.
Moore, Edward James Fleetwood, Victoria-park.
Moxey, Vincent, Bristol.
Muir, Robert Douglas, Newcross.
Mulvany, John, Holloway-road.
Naden, John Basset, Manchester.
Nathan, Edward Albert, Maida-vale.
Norway, Nevell Edmund, Ealing.
Orr, John, Edinburgh.
Ouston, Thomas George, Leeds.
Peters, Albert Edward Duncan Ralph, West Kensington
Preston, Frederick, Wymondham, Norfolk.
Purvis, William Prior, Greenwich.
Richards, Harold Meredith, South Hill-park.
Rielly, William Ernest, Tufnell-park.
Rix, Francis William, Tunbridge Wells.
*Roper, Herbert John, Leeds.
Salter, Charles Edward, Barnes-common.
Severs, George, Bingley, Yorkshire.
Sewill, Joseph Sefton, Wimpole-street.
Sharp, Percy, Bayswater.
Shaw, Francis Bentley, Blackheath.
Shore-Smith, Samuel, Hampshire.
Smale, John, Bayswater.
Smith, George Samuel Stone, Albert-square.
Soutter, David Wright Luther, Cumberland-terrace.
Soutter, Mansfield Knox, Cumberland-terrace.
Stephens, Henry Newport, Knutsford.
Stephenson, Frederick John Orchard, North Kensington
Stevens, William Mitchell, Great Coram-street.
Stonham, Henry Archibald, Cowley-street.
Symes, John Odery, Leamington-road-villas.
Taylor, Frederic Henry Arthur, Lavender-hill.
Thomas, David Owen, Minneapolis, U.S.A.
Thompson, Charles, Almeric-road.
Thomson, Alfred Edward, M.D. R.U.I., Margate.
Thornton, George, Bernard-street.
Waddelow, John Joseph, King's College Hospital.
Ward, James Philips Stephens, Devonport.
Watson, George Alexander, Tottenham.
Watson, James, M.B. Edin., Nottingham.
Weaver-Bridgman, Harry Mellor, Rutland-gate.
Webster, Percy Lawrance, South Hampstead.
Willans, William Henry, Grafton-street, Mile-end.
*Williams, David Lewis, London.
Windle, Jabez Davenport, L.K.Q.C.P.I., Southall.
Wintle, Colston, Bristol.
Witham, Ernest Wells, Brixton.
Worsley, Reginald Carmichael, Fitzroy-road, Regent's-park.
Worth, Francis James, St. Charles-square.

* Candidates who have not presented themselves under the regulations of the Examining Board.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen, having passed the necessary examinations, were admitted Diplomates in Public Health at the last meeting of the two Royal Colleges:—

Acton, Charles James, L.R.C.P. Lond., M.R.C.S. Eng., Southport.
Bain, David Stuart Erskine, M.R.C.S. Eng., Madras, India.
Collins, Henry Beale, M.R.C.S. Eng., Little Grosvenor-street.
Coxwell, C. Fillingham, M.B. Cantab., M.R.C.P. Lond., Earl's-court.
Cropley, Alfred, M.R.C.S. Eng., Naval Medical Service.
Dickinson, W. Gilbert, L.R.C.P. Lond., M.R.C.S. Eng., Wimbledon-park-road.
Evans, Evan, M.R.C.S. Eng., Cardiganshire.
Farmer, Septimus, M.R.C.S. Eng., F.R.C.P. Edin., Edith-grove.
Frost, Francis Turner, L.R.C.P. Lond., M.R.C.S. Eng., Derby.
Gregory, Alfred John, M.D. Durh., M.R.C.S. Eng., Brixton.
Hobson, J. Morrison, M.D. Ed., L.R.C.P. Lond., M.R.C.S.E., Croydon.
Hope, William More, M.R.C.S. Eng., Gloucester.
Hormusje, Sorab Cowasji, L.R.C.P. Lond., M.R.C.S. Eng., Upper Bedford-place.
Irwin, Fredk. David, M.B. Lond., M.R.C.S. Eng., Preston.
Ledingham, Alex. Napier, M.B. Glasg., Glasgow
Matthews, C. E., M.B. Oxon., L.R.C.P. Lond., M.R.C.S.E., New-cross.
Piesse, Charles Henry, M.R.C.S. Eng., Dorncliffe-road.
Pires, George, L.R.C.P. Lond., M.R.C.S. Eng., Woburn-place.
Shadwell, St. Clair B., L.R.C.P. Lond., M.R.C.S. Eng., Walthamstow.
Stawell, Richard Rawdon, M.D. Melb., Melbourne, Victoria.
Stevens, Francis Joseph, M.R.C.S. Eng., Liverpool-road.
Wade, Charles Henry, L.R.C.P. Lond., M.R.C.S. Eng., Devon.
Whiston, Philip Henry, L.R.C.P. Lond., M.R.C.S. Eng., Rochester.
Wood, William Atkinson, M.D. Melb., Melbourne

BRITISH MEDICAL SERVICE.—The following is the list of Surgeons on probation of the Medical Staff of the British Army who were successful at both the London and Netley Examinations held in July. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—

	Marks.		Marks.
*Porter, F. J. W.	5940	Tate, G. W.	4760
Robinson, O. L.	5370	Faichnie, N.	4745
†Stalkartt, C. E. G.	5235	Lenehan, T. J.	4725
Gibbard, T. W.	5160	McDowell, F.	4710
Healy, C. J.	4992	Boghie, F. W.	4665
Burtchaell, C. H.	4975	MacCarthy, J. A. O.	4656
Buist, H. J. M.	4970	Austin, J. H. E.	4610
Stanistreet, G. B.	4930	Duggan, C. W.	4595
Brown, F. J	4910	Gerrard, J. J.	4565
Hardy, W. E.	4900	Jameson, J. C.	4425
Brogden, J. E.	4777		

* Gained the Herbert Prize of £20, with the Montefiore Medal and Prize of 20 guineas, and with the De Chaumont Prize in Hygiene.
† Gained the Montefiore Second Prize.

UNIVERSITY OF EDINBURGH.—The following 185 gentlemen received the degrees of M.B., C.M., on Aug. 1st:

Adam, Walt, Dingwall.
Anderson, A. J., Portobello.
Anderson, A. W., St. Andrews.
Anderson, Jas., Edinburgh.
Anderson, John, Shetland.
Ashton, R. J., Lavender-hill.
Atkinson, F. B. B., Brighton.
Atkinson, Jas., Harrogate.
Barbeau, L. G., Edinburgh.
Bayley, J. H., Northampton.
Bennett, Hugh, Edinburgh.
Berry, R. J. A., Ormskirk.
Bienemann, A. J., Brighton.
Bishop, T. H., Gloucester.
Blundell, Hight, Sevenoaks.
Bone, J. W., Newcastle-on-Tyne.
Bowker, G. E., Bath.
Brennan, J. J., Marchmont-cres.
Brierley, T. B., Cheshire.
Broadfoot, J. D., Edinburgh.
Brush, S. C., Dundee.
Cairns, W. M., Liverpool.
Cameron, K. M., Edinburgh.
Capper, Percy, Liverpool.
Carruthers, E. J. W., Inverness.
Chapman, J. W., N. Wales.
Clark, H. A., Glasgow.
Clemons, G. E., Tasmania.
Cochrane, Chas., Worcester.
Cockburn, R. P., Ealing.
Coller, C. J. van, Edinburgh.
Compton, J. W. (Rev.), Hants.
Cowan, John, New Galloway.
Cran, Robt., Fearn.
Crawford, J. H., Perthshire.
Crombie, J. F., N. Berwick.
Crosse, H. W., Norwich.
Darlington, G. D., Edinburgh.
Davidson, Jas., Edinburgh.
Davies, H. R. L., Bewdley.
Dempster, R. G., Edinburgh.
Drummond, W. B., Edinburgh.
Duke, Alf., Brechin.
Edgerley, Samuel, Portobello.
Elder, George, Haddington.
Elliott, A. C., Bradford-on-Avon.
Emin, Michael, Warrender-park-terrace.
Eurich, F. W., Bradford.
Fenton, J. L., Edinburgh.
Fink, L. G., Edinburgh.
Fischer, E. C., St. Andrews.
Fletcher, J. L., Manchester.
Forsyth, W. D., Berwickshire.
Foster, F. T., Edinburgh.
Fox, E. J., Preston, Lancs.
Francis, John, Grimsby.
Fraser, H. E., Inverness.
Fuller, E. B., Edinburgh.
Gallie, W. M. D., Edinburgh.
Gibb, Denson, Midlothian.
Glover, H. J., Gatehouse.
Gourlay, Fred., Dundee.
Grenier, F. C. H., Ceylon.
Griffith, Wm., Milford Haven.
Grosvenor, W. C., Glasgow.
Hall, H. B., Bedford.
Harriss, S. A., Midlothian.
Hartley, S. H., Bradford.
Haslam, A. J., Westminster.
Hatton, P. T., Leamington Spa.
Hay, Edmund, Edinburgh.
Hay, W. P., Arbroath.
Heath, R. A., Buffalo.
Helme, G. E., Lancaster.
Henderson, L. E., Edinburgh.
Herman, Geo., Edinburgh.
Hillier, Sidney, Gloucester.
Hope, G. J. B., Edinburgh.
Hulme, J. Q., Leek.
Huxtable, R. B., Edinburgh.
Jaganonadham, P. R., Edinburgh
Jones, J. L., Aberystwyth.
Jones, H. S. W., Jersey.
Kenworthy, A. B., Southport.
Kinmont, Edwd., Edinburgh.
Lamrock, L. J., Edinburgh.
Landsberg, E. P. T. Von, Cape Town.
Lamb, Robt., New Zealand.
Lee, H. E., Worcester.
Lewis, Cyril, Carmarthen.
Livingstone, John, Perth.
McAllum, A. J., Keith.
Macdonald, T. F., Edinburgh.
MacGill, H. M., Musselburgh.
MacGill, W., Musselburgh.
Macgowan, T. N., London.
McKay, J. T., Dumfries.
McKellar, T. G., Edinburgh.
Mackenzie, D. J., Inverness.
McKettrick, F. J., Lochmaben.
Mackintosh, Archd., Edinburgh.
Maclaren, John, Edinburgh.
Maclean, Sam., Edinburgh.
Macleod, W. B., Edinburgh.
Macmaster, Chas., Perth.
Macmillan, D., New Galloway.
Macrae, J. L., Edinburgh.
Mallett, F. R., Bolton.
Martin, Chas., Birmingham.
Mathews, T. G., Westmoreland.
Maynard, J. S., Suffolk.
Melville, Geo., Edinburgh.
Mill, Wm., Dunedin, N. Zealand.
Miller, Jas., Falkirk.
Milroy, T. H., Edinburgh.
Milroy, W. C., Dumfriesshire.
Mitchell, G. H., Melrose.
Moore, E. C., Derby.
More, L. P., Kettering.
More, P. St. C., Kettering.
Moss, F. W., Mussoorie, India.
Munro, J. D. R., Nantwich.
Murison, J. A., Edinburgh.
Murray, Wm., Montrose.
Niekerk, A. J. van, Cape Colony.
Oddie, S. J., Leeds.
Ogilvie, W. H., Edinburgh.
Orr, John, Edinburgh.
Parry, T. L., North Wales.
Peart-Thomas, Wm., Gloucester.
Prance, G. H., Cheltenham.
Price, R. L., Oswestry.
Rainy, Harry, Edinburgh.
Renton, J. M., Edinburgh.
Ridley, E. H., Bournemouth.
Roberts, J. H., Northampton.
Robertson, A. G., Edinburgh.
Robertson, J. F., Shetland.
Robertson, W. F., Drem.
Rodriguez, F. A., Trinidad.
Rossie, J. C., Orkney.
Rutherford, Alex., Dumfries.
Rutter, Alfred, Durham.
Scott, J. B., Newport, Fife.
Scott, R. W. L., Edinburgh.
Shiach, S. A., Elgin.
Slayter, E. W., Halifax, Canada.
Smith, J. B., Kinghorn.
Smith, J. G., Dundee.
Spurway, John, Kidderminster.
Stever, E. M., Montrose.
Stodart, Thos., Pencaitland, N.B.
Stodart-Walker, A., Edinburgh.
Stuart, Charles, Perth.
Stuart, D., Grantour-on-Spey.
Sturrock, C. A., Edinburgh.
Sutherland, C. D., Aberdeen.
Sutherland, John, Larbert.
Syme, W. S., Kilmalcolm.
Thomas, Bernard, Llandudno.
Thyne, Wm., Herts.
Tindal, D. D., Montrose.
Walker, H. S., Spilsby, Lincs.
Walker, T. D., Canada.
Walker, W. J., Kincardine.
Walsh, D. H., Earl's-court.
Walton, G. S., Salop.
Watson, G. G., Edinburgh.
Watt, N. P., Edinburgh.
Webster, A. J., Hornsey-rise.
Whiteford, J. H. G., Greenock.
Wield, David, Ayr.
Wilde, R. S., Weston-super-Mare.
Williams, J. C., North Wales.
Williams, J. D., North Wales.
Williams, J. W., Bishopsgate-st.
Wilson, Geo., Edinburgh.
Wilson, J. T., Tasmania.
Wilson, T. A. M., Dundee.
Wood, J. M., Dumfries.
Young, D. H., South Australia.
Young, J. Y. S., Ainslie-place.
Young, R. J. E., Ainslie-place.
Zaytoun, F. S., Edinburgh.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS IN IRELAND.—The following have passed the Final Examination:—

P. Banagry, W. Butterly, A. R. Dillon Carbery, F. W. Condon, E. W. Dickson, J. Dowling, P. J. Fagan, M. L. Fisher, J. J. Hopkins, F. C. Lenehan, W. E. Moore, D. A. McCurdy, P. J. Quinlan, W. Smartt, J. G. R. Symes, A. W. Tabuteau, and G. F. Woodrooffe.

The undernamed passed portions of the Examination for which they presented themselves for:—

J. J. Cullen, J. O'C. Donelan, F. W. Foott, E. F. Frazer, S. A. Jameson, G. Q. Richardson, W. Russell, and H. E. Stone.

INDIAN MEDICAL SERVICE.—The following is the list of Surgeons on probation in Her Majesty's Indian Medical Service who were successful at both the London and Netley Examinations held in July. The prizes are awarded as in the British Medical Service.

	Marks.		Marks.
*Burton-Brown, F. H.	6292	Wood, H. S.	5465
Deare, B. H.	5880	T. W. Irvine	5413
Oldham, B. C.	5820	Entrican, J.	5395
Bird, R.	5775	Pridmore, W. G.	5360
†Smith, S. B.	5717	Donovan, C.	5235
Henvey, W.	5598	Penny, J.	5175
Lumsden, J. S. S.	5570	Brown, A. T.	5100
‡Frost, G. H.	5565	Graves, D. H. McD.	5120
Wilkinson, E.	5535	Dallas, S. A. C.	5065
Ewens, G. F. W.	5513	Palk, C. H. L.	4905
Duer, C.	5480		

* Gained the Prize in Pathology presented by Sir Wm. Aitken, F.R.S.
† Gained the Parkes Memorial Bronze Medal in Hygiene.
‡ Gained the Martin Memorial Gold Medal and the Prize in Clinical Medicine presented by Surgeon-General W. C. Maclean, C.B.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The Library of the College will be closed on Saturday, Monday, and Tuesday, the 8th, 10th (Conversazione), and 11th of August, and on and after Monday, Aug. 17th, owing to alterations and repairs to the system of drainage. The Library will be closed as usual during September.

MANCHESTER ROYAL INFIRMARY.—The annual report, just issued, testifies to the continued prosperity of the infirmary and its allied institutions. The asylum, its cottages and villas, its seaside establishment, and its large house in North Wales, continue to do a great work. During the past year important additions have been in progress at Monsall, which are fast approaching completion. These would accommodate 100 nurses and 354 patients. The financial condition was satisfactory. The extension proposed, with the approval of the trustees, on their own ground would, it was believed, afford ample provision for hospital accommodation for many years to come.

NOBLE'S ISLE OF MAN GENERAL HOSPITAL AND DISPENSARY.—This charity is steadily and satisfactorily extending its usefulness. The house surgeon's report for the year 1890 shows a considerable increase of both in- and out-patients treated during the year, and an exceptional augmentation to the number of attendances at the dispensary. There was a debit balance on the year's finance of £261 15*s.* 10*d.*, attributed chiefly to the additional expenditure necessarily incurred by the increased demands upon the institution, and for some outlay for furniture. Reference is gratefully made to Mr. Noble's generosity in erecting the hospital, and thanks accorded to him for now giving a large sum for establishing a Convalescent Home.

SHEFFIELD NURSES' HOME AND TRAINING INSTITUTE.—The annual meeting was held on the 28th ult. The report presented for the past year showed an improved financial condition of the institution. The earnings of the nurses during the year had increased by £221 12*s.* 1*d.* The committee had purchased the house, 334, Glossop-road, and they had there the pleasure of welcoming the subscribers in the new home. The appeal for special donations had met with a liberal response; the amount received up to that time was £757 18*s.* 6*d.* Of this sum, £500 was appropriated towards the purchase money of the new premises, and the remainder spent in necessary alterations and improvements. Arrangements had been made to commence district nursing. The report was adopted.

ANCOATS HOSPITAL, MANCHESTER.—The past year of this institution has been marked by a steady progress in all its departments. There had been considerable pressure on the beds available, and the resources of the hospital were greatly strained. During the year a donation of £1250 had been received to endow for five years five beds at £50 each. These were opened, and have been in daily use for several months. Old public school-boys residing in this district have endowed "Harrow," "Eton," "Rugby," and "Wykeham" cots in the children's ward. A convalescent home has been secured at Wilmslow, and is in full working order. Mr. H. Boddington has presented a donation of £500, and Mr. Jardine, the president, £1000. The adverse balance from last year had been reduced from £675 to £525. The investments now amounted to £19,700.

A NEW CONVALESCENT HOME.—On the 1st inst. a convalescent home for women was opened at Castle Donington by Lady Belper, in the presence of an influential gathering of subscribers and supporters.

SUPERANNUATION GRANT.—Mr. C. J. Symonds, L.R.C.P. Edin., M.R.C.S., of Woolston, Southampton, lately medical officer for the fifth district of the South Stoneham Union, has been granted a superannuation allowance of £24 11*s.* 4*d.* per annum.

THE PUBLIC HEALTH MEDICAL SOCIETY.—The annual dinner of this Society will take place in the Venetian Chamber at the Holborn Restaurant on Aug. 12th, at 7 P.M., Sir Charles A. Cameron in the chair.

RABIES IN ASSES.—Canine rabies is stated to have been prevalent of late near New Ross, co. Wexford, and the disease appears to have spread to other animals, asses particularly being affected. A mad ass last week attacked and killed a little girl, mangling the head and shoulders in a frightful manner.

PRESENTATION.—Dr. A. B. Paterson of Butterknowle, Darlington, has been presented by his friends, upon his leaving the district, with a gold watch. A handsome tea and coffee service has also been presented to him and Mrs. Paterson by friends at Butterknowle, Cockfield, and Woodland district, as tokens of regard and esteem.

A NEW LUNATIC ASYLUM FOR MIDDLESEX.—On the recommendation of their Asylums Committee, of which Mr. H. R. Williams is chairman, the Middlesex County Council have decided to erect an asylum for 200 imbeciles and idiots. A temporary asylum for forty patients is to be at once opened in some building to be rented for two years, that being the time the proposed asylum will take to be built.

THE SANITARY INSTITUTE.—Last week the Duchess of Albany presented the certificates awarded to twenty-two successful lady students of this institution at the Parkes Museum, Margaret-street, in connexion with the lectures on Domestic Hygiene given during the Lent term by Dr. Scholefield. A vote of thanks to the Duchess for her continued interest in the work of the institute was proposed by Lord Fortescue, seconded by Dr. Poore, and carried unanimously. Sir Spencer Wells proposed, and Sir Robert Rawlinson seconded, a vote of thanks to Dr. Scholefield, which was carried with applause.

HINCKLEY COTTAGE HOSPITAL AND NURSING INSTITUTE.—Last week the opening ceremony of this institution was performed by Lady Agnes Tollemache Scott, in the presence of a large assembly. The honorary secretary stated that the establishment of a Cottage Hospital in Hinckley was chiefly due to the exertions of Dr. E. J. Pritchard. Some time ago steps were taken towards obtaining a district nurse for the town, and the present scheme was the outcome of the movement. Dr. Pritchard's appeal for funds was so liberally responded to that it was thought desirable to combine with the district nursing plan a Cottage Hospital for the sick poor who could not be properly nursed in their own homes.

SHEFFIELD HOSPITAL AND DISPENSARY.—The annual report, the fifty-ninth, for the past year is very encouraging and satisfactory. Reference is made to the death of Mr. Bernard Wake, the treasurer, and the loss the institution has sustained thereby. To perpetuate his memory £1700 had been raised by the governors and inhabitants to form a convalescent fund, which was greatly wanted, and in which Mr. Wake had felt deeply interested, carrying on at his own expense the Sandygate Convalescent Home. Mr. Wake's munificent donation towards rebuilding the out-patients' department, supplemented by other generous donations, had placed the board in a position to commence the erection of the first of the three blocks of the new buildings at an early date. The total expenditure for the year was £5316 3*s.* 4*d.*, but the ordinary income showed a deficiency of £764.

MEDICAL NOTES IN PARLIAMENT.

Lunacy Bill.

IN the House of Lords on Monday last, the Commons' amendments to the Lords' amendments on this Bill were also considered and agreed to, and received the Royal assent.

Public Health (London) Bill.

On Tuesday, Aug. 4th, on the motion of Lord de Ramsey, the Commons' amendments to the Lords' amendments were considered and agreed to, and received the Royal assent.

Medical Officers in Scotland.

The Earl of Wemyss rose to call attention to the action of the Board of Supervision in the matter of the appointment of medical officers under the Local Government Act in connexion with the Government grant of £15,000 in aid of local expenditure. He showed that the question was of considerable importance in Scotland, and that nothing could be clearer than the provision of the Act which dealt with this subject. The £15,000 had been originally distributed among the different counties in Scotland according to rules laid down by the Secretary for Scotland, one being permission to medical officers to engage in private practice; but afterwards there appeared rules by the Board of Supervision, contained in a paper dated Jan. 8th, abrogating this privilege. Whether the Board had been moved by the Secretary for Scotland or *vice versâ*, or whether by the College of Physicians in Edinburgh, he could not say, but there the matter at present stood. He called attention to this matter in the interests of efficient local government, and hoped the Secretary for Scotland would reconsider these rules and regulations.—The Marquis of Lothian was able to assure the noble lord, whatever view might be taken as to the desirability of allowing medical officers of health in Scotland to engage in private practice, that there was certainly nothing illegal in the course which had been followed, and that the Board of Supervision had acted perfectly within their competence.

Factories and Workshops Bill.

On the Lords' amendments to this Bill being considered, Mr. Matthews moved that the House disagree with the new clause passed by the Lords with reference to the power of county councils to provide for the inspection of workshops and the enforcement of sanitation therein. By this new clause it was proposed that the unhappy occupier of premises used as a workshop should be worried and harried by another set of inspectors. This would, in his opinion, be unreasonable and vexatious.—Mr. Buxton thought the Home Secretary sympathised more with the occupier than with the unfortunate workpeople, who were expected to work in ill-ventilated rooms. He held that the new clause ought to be retained.—The House divided, and the Lords' amendment was rejected by a majority of twenty-one votes.

Supply

The vote to complete the sum of £18,447 for hospitals and charities in Ireland was agreed to.

On the vote to complete the sum of £26,809 for the expenses of temporary commissions, Mr. Morton asked the President of the Local Government Board whether he could give the committee any information with regard to the Royal Commission on Vaccination.—Mr. Ritchie said he was quite as anxious as the hon. member could be to receive the report of the Commission. The matter was a very large one, embracing points of great difficulty, and he could give no information as to when the report would be made.

Mr. Sexton moved a reduction of the vote by the amount of the Tuberculosis Commission. Mr. Jackson agreed with Mr. T. Healy that the time had come when this Commission should be wound up. He had been assured that that was being done.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ALLEN, R. G., L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer of Health for Belper.

BARBER, E. T. CONGREVE, M.R.C.S., L.R.C.P. Lond., L.S.A., has been appointed Resident Surgeon to the Birmingham General Dispensary, vice E. D. Kirby, M.D., resigned.

BARBER, R. D., M.R.C.S., has been appointed Deputy Medical Officer for the Eastwood Sanitary District, Nottingham.

BICKERSTETH, R. A., L.R.C.P. Lond., M.R.C.S., has been appointed, *pro tem.*, Medical Officer of the Bethnal-green Infirmary, Victoria-park.

BLACKER, G. F., F.R.C.S., has been appointed Senior Demonstrator of Anatomy at University College Hospital.

BRATTON, J. A., L.R.C.P. Lond., M.R.C.S., has been appointed Deputy Medical Officer for the Parishes of Ewell, Chessington, and Cuddington.

BUTTERS, J. G., L.R.C.P., L.R.C.S. Edin., has been appointed, *pro tem.*, Medical Officer of the Shoreditch Union Infirmary.

CLOTHIER, H., M.D. Lond., L.R.C.P., has been reappointed Medical Officer of Health for Hornsey.

CRAIG, WM. WALLACE, L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Bridgnorth and South Shropshire Infirmary, vice F. M. House, resigned.

FOWLER, J. K., M.R.C.P. Lond., M.R.C.S., has been appointed Physician to the Clergy Mutual Assurance Society, vice Stone, deceased.

JOLL, B. B., M.B. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Woolton Sanitary District of the Prescot Union.

JONES, EDWIN E., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer and Public Vaccinator for the Sanitary District of Openshaw, of the Chorlton Union.

MILLS, R. J., M.B., C.M. Aberd., M.R.C.S., has been appointed, *pro tem.*, Medical Officer for the Third District of the Norwich Union.

POLSON, G. Y., M.B., C.M. Edin., has been appointed Medical Officer for the Farnsfield and Southwell Districts, and the Workhouse of the Southwell Union, vice Davey, resigned.

WHITBY, ROBT., M.R.C.S., has been appointed Medical Officer for Willesden, Hendon Union.

WILLEY, CHAS. H., M.D. Edin., C.M., D. Sc. (Pub. Health), M.R.C.S., has been appointed Medical Officer for the Second Sanitary District of the Ecclesall Union, vice Hardwicke.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

CHESHIRE COUNTY ASYLUM, Macclesfield.—Junior Assistant Medical Officer for three years. Salary £105, rising £10 yearly to £125, with board (no alcohol), lodging, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—House Surgeon. Salary £100 per annum, with board (exclusive of beer, wine, and spirits), lodging, and attendance.

GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTER EYE INSTITUTION.—House Surgeoncy. Salary £100 per annum, with board, lodging, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physicians.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £40 per annum, with board, lodging, and washing.

LEEDS UNION.—Assistant Medical Officer and Dispenser for the Workhouse Schools and Infirmary, Beckett-street, Leeds. Salary £100 per annum, with board, washing, apartments, and attendance. (Apply to the Clerk, Union Offices, East-parade, Leeds.)

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer for twelve months. Salary £150 per annum, with board and residence.

MUNICIPAL COMMISSIONERS OF SINGAPORE.—Health Officer, and to act as Medical Officer to the staff and employés of the Municipality. Salary Rs. 300 per mensem, with Rs. 40 extra allowance for two horses. Appointment for three years, with option of renewal; passage paid out and home. (Apply to Dr. W. Gilmore Ellis, of Singapore (now in England), at St. Bartholomew's Hospital, London, up to August 31st, or to Mr. C. C. Lindsay, 167, St. Vincent-street, Glasgow.)

PAROCHIAL BOARD OF WALLS, SANDNESS, PAPASTOUR, AND FOULA, SHETLAND.—Medical Officer and Public Vaccinator. Salary £35, exclusive of medicine.

PARISH OF ST. LEONARD, Shoreditch.—Resident Assistant Medical Officer for the Workhouse and Infirmary. Salary £100 per annum, increasing £10 annually to £120 per annum, with rations, furnished apartments, and washing in the Infirmary.

ROTHERHAM HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with board, furnished apartments, and washing.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. No salary. Board, lodging, and washing provided.

STOCKPORT INFIRMARY.—House Surgeon. Salary £100 per annum, with board and apartments.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Junior House Surgeon. Salary £50 per annum, with board and apartments.

Births, Marriages, and Deaths.

BIRTHS.

GUILLEMARD.—On July 30th, at Netley Lodge, Southsea, the wife of B. J. Guillemard, M.D., of a daughter.

JACKSON.—On July 29th, at St. Helens, Lancs., the wife of R. Jackson, M.B., of a son.

KERSHAW.—On July 23rd, at Wellington House, Bruce-street, Leeds, the wife of John C. Kershaw, M.R.C.S. Eng., of a son.

LANSDALE.—On July 26th, at 44, Trinity-square, S.E., the wife of William Lansdale, M.B., L.R.C.P., M.R.C.S., of a son.

MARTEN.—On June 14th, at Adelaide, South Australia, the wife of Dr. Humphrey Marten, of a son.

ROWE.—On Aug. 1st, at the Borough Asylum, Ipswich, the wife of Edmund L. Rowe, Medical Superintendent, of a son.

SHEWAN.—On July 22nd, at Reas Villa, Sandgate, Una, the wife of George Shewan, Indian Medical Service, of a daughter.

SMITH.—On July 22nd, at St. Helier's, Jersey, the wife of Herbert Smith, L.R.C.P. Edin., M.R.C.S., of a daughter.

STARK.—On July 13th, at Oxford, the wife of Dr. M. Dugald Stark, of a son.

WEBBER.—On July 27th, at Sutton Valence, Kent, the wife of Edw. S. Webber, M.B. Cantab., of a daughter.

MARRIAGES.

ANDREWS—WISDEN.—On Aug. 5th, at St. Mary's Church, Broadwater, Sussex, by the Rev. W. R. Andrews, father of the bridegroom, assisted by the Rev. E. K. Elliott, Rector of the Parish, Launcelot Andrews, M.B. Lond., of Stamford, to Maud, eldest daughter of Lt.-Col. Wisden, of The Warren, Broadwater.

BERRY—DICKENSON.—On Aug. 5th, at St. Ann's, Wandsworth, James Berry, B.S., F.R.C.S., of Welbeck-street, London, to Frances May Dickenson, M.B. Lond., of Bramblebury, Wandsworth Common.

EYTON-JONES—STODART.—On July 28th, at St. Philip's Church, Kensington, Dr. John Arthur Eyton-Jones, Gringley-on-the-Hill, Yorkshire, to Annie Isabella, elder daughter of Thomas Stodart, Esq., of Crosswoodhill, Lanarkshire.

GROSVENOR—FROST.—On July 21st, at the Parish Church, Egham, by the Rev. W. T. Nicholson, M.A., Rector of the Parish, assisted by the Rev. J. A. Fletcher, M.A., Vicar of Bungay, Alfred Augustus Grosvenor, B.A., M.R.C.S., second son of Dr. Grosvenor, of Greville-place, London, to Alice, daughter of the late W. T. Frost, of West Wratting Park, Cambridge, and Mrs. Frost, of Tudor Lodge, Egham, Surrey.

KEAY—RUTHERFORD.—On Aug. 6th, at Crichton House, Dumfries, by the Rev. T. R. Rutherford, M.A., Minister of Dunkeld and Dowally, uncle of the bride, assisted by the Rev. G. W. Ure, Dumfries, John Keay, M.D., M.R.C.P.E., Mavisbank, Midlothian, to Mary Freer, eldest daughter of James Rutherford, M.D., F.R.C.P.E., Crichton Royal Institution.

LAMBKIN—MITFORD.—On July 22nd, at St. Augustine's, Queen's-gate, Francis J. Lambkin, Surgeon, Army Medical Staff, son of the late Robert Lambkin, J.P., of Feltrim, Blackrock, Cork, to Evelyn Bertha, daughter of Mrs. Henry Reveley Mitford.

LENNOX—NICOLL.—On July 23rd, at Dundee, David Lennox, M.D., late R.N., to Nellie, daughter of Alexander Nicoll, of Riverleigh.

NEWELL—ADAMS.—On July 30th, at the Church of St. Mary at the Elms, Ipswich, by the Rev. Kenyon Stow, assisted by the Rev. J. Powell, Percy Newell, M.R.C.S., L.K.Q.C.P.I., of Sillwood Place, Crowborough, Sussex, to Alice, only daughter of Webster Adams, M.R.C.S., Chestnut House, Ipswich, Suffolk.

SMITH—MARRIOTT.—On Aug. 5th, at St. Andrew's Church, Bradfield, Berks, by the Rev. H. B. Gray, Warden of Bradfield College, brother-in-law of the bride, Robert Percy Smith, M.D., F.R.C.P., Resident Physician of Bethlem Royal Hospital, to Alice Mary, third daughter of the late Wharton B. Marriott, of Eton College.

WARD-HUMPHREYS—PRIESTLEY.—On July 29th, at Calverley Parish Church, George Herbert Ward-Humphreys, L.R.C.P. Lond., M.R.C.S., of Oriel Lodge, Cheltenham, to Sophie, elder daughter of Mr. Briggs Priestley, M.P., of Fernciffe, Apperley-bridge, Yorks.

WILLIAMS—BUCKTON.—On July 30th, at St. Jude's, South Kensington, Reginald Muzio Williams, M.D. Lond., son of the late Henry Owen Williams, Esq., J.P., D.L., of Tre-Arddur and Tre-Castell, in the county of Anglesea, to Ethel, second daughter of Woodyer Merricks Buckton, Esq., F.L.S., late of Hill House, Edgeware.

WILLIAMS—RICE.—On July 30th, at the Parish Church, Boston, Arthur Williams, M.A., M.B., B.C. Cantab., M.R.C.S., to Harriett, youngest daughter of the late Chas. Rice, Esq., of Boston.

DEATHS.

ANDREW.—On July 26th, at Haverstock-hill, London, N.W., John May Andrew, M.R.C.S., aged 58.

BENNET.—On July 28th, at La Bollène, Alpes Maritimes, France, James Henry Bennet, M.D., of London and Mentone, aged 75.

KENT.—On July 31st, suddenly, J. C. Kent, Surgeon in practice for over forty years, at Wrotham, Kent, aged 76.

MOIR.—On July 26th, at his residence, Union-street, Aberdeen, F. F. M. Moir, M.B., C.M. Aberd., aged 44.

ROBERTS.—On July 30th, at Po tmadoc, Robert Roberts, M.R.C.S., L.S.A.

WARREN.—On July 31st, at Welbeck-street, Richard Benson Warren, F.R.C.S.I., late of Camden, N.S.W., eldest son of the Rev. Canon L. C. Warren, of Clonmel, Ireland, aged 35.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at Midnight on August 4th, 1891.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total.	
Eastern Hospital	173	56	1	57	..	287	442
North-Western Hospital	11c	34	..	29	1	180	443
Western ,,	131	16	..	6	3	156	224
South-Western ,,	132	16	..	12	1	161	340
South-Eastern ,,	167	8	2	12	..	189	462
Northern ,,	173	21	..	6	..	200	480
Totals	892	151	3	122	5	1173	2391

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Aug. 6th, 1891.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo.	Maximum Temp. in Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
July 31	29·83	N.W.	59	54	113	70	54	·15	Cloudy
Aug. 1	30·03	W.	60	55	115	71	55	..	Cloudy
,, 2	29·95	W.	63	58	101	69	57	..	Cloudy
,, 3	29·65	W.	59	55	115	69	55	·45	Cloudy
,, 4	29·62	W.	58	53	118	70	51	·02	Cloudy
,, 5	29·78	N.W.	56	54	106	72	52	·20	Hazy
,, 6	30·06	E.	56	54	70	59	55	·01	Raining

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

DIARRHŒA ADIPOSA.

M.R.C.S. would be glad to be advised of any treatment that would beneficially affect a case of fatty diarrhœa, in which ipecacuanha, bael fruit, catechu, opium, quinine, gallic acid, &c., have been employed without much effect on the diarrhœa. The patient has taken pancreatic tabloids for six months. They keep under the excretion of oil, but the diarrhœa continues.

Dr. John Myers.—The degree cannot yet be registered under the provisions of the Medical Act of 1886. There is no harm in appending the title to the name. Styraps' Medical Ethics are good. But every medical man is the better for having read the classical book of Dr. Percival.

Dr. Fred. A. A. Smith (Cheltenham) writes:—"Perhaps some of your readers may be able to inform me if it is true that the waters of Canterets, Hautes Pyrénées, are found to have a remarkably curative effect on throat deafness."

Mr. Scott-Frost.—There can be no doubt that the correct orthography is "phthisis."

"PRIVATE AND CONFIDENTIAL."

To the Editors of THE LANCET.

SIRS,—I send you the enclosed for your perusal, and, if you think well, for publication. I fear the profession must be held in small estimation when its members are, I should say, almost daily annoyed by receiving such communications. It is marked "Private and confidential," which leads me to conclude that the sender must have known he was treading on "delicate ground." I hope that by giving the matter publicity he will be deterred from making objectionable advances of a like nature—to me, at any rate.

I am, Sirs, yours faithfully,

Aug. 3rd, 1891. M.R.C.P.I.

"*Private and confidential.*] "July 29th, 1891.

"DEAR SIR,—I can offer you a good discount on all sales of my —— —— effected through your kind recommendation—viz.: 1. On all orders of 1 doz. *received direct from the patient* (price 30s. doz., carriage paid), 8*s. per doz. discount to you.* 2. On all orders *received direct from a retail chemist* appointed by you (price 24*s.* per doz.), 4*s. per doz. discount to you.* The orders in both cases must come to me direct from the patient or retail chemist, *and not from a wholesale chemist.* Otherwise I cannot trace the result of your recommendation. I send the discount to you (either 8*s.* or 4*s.*) the same day the patient or retail chemist pays my account, and my terms are cash with order. A sample bottle will be sent you upon application. "Yours truly,

"—— ——."

'Kindly send me the name and address of patients who order direct from me and of retail chemist or agent appointed by you."

THE LATE DR. FISHER OF CHELSEA.

THIS gentleman, who died from influenza last June, although a most industrious practitioner and the inventor of valuable surgical appliances, was unable to make provision for his widow and daughters. A committee has been formed for the purpose of placing these ladies in a position whereby a livelihood may be obtained. Subscriptions will be received by Sir Joseph Lister, Bart., 12, Park-crescent, W.; T. Bryant, Esq., P.R.C.S., 65, Grosvenor-street; and Dr. Mapother, 32, Cavendish-square.

Mr. S. Compston.—The Medical Council severely condemns the employment of unqualified assistants except under the strict supervision and in the house of the principal. Payment for the services supplied by an unqualified assistant cannot be enforced legally. An unqualified locum tenens would not be approved by the Medical Council. These statements involve the answer to our correspondent's questions.

"THE HABIT OF WASHING."

To the Editors of THE LANCET.

SIRS,—I have read with much interest your very sensible remarks on this subject; and as I have had more than fifty years' experience of the morning sponge bath, I may be able to make some useful remarks.

With all your observations I perfectly agree, especially as to the warm bath, which should not be used more than once a week with soap. The cold bath in the morning will give some people rheumatism. I had a very disagreeable attack of lumbago from using it only three or four times. The sponge bath of pure water gave me rheumatism in the arms, but as soon as I began to use sea salt (bay salt is just as good) it cured all my rheumatism, and I could enjoy my sponge bath all the year round with the greatest benefit. Of late years, however, I cannot recover the natural warmth in very cold weather, so I just chill the water to about 60° Fahrenheit. I think all persons of weakly constitution may use the sponge bath or even sitz bath if they add the salt overnight, so that it is dissolved by morning. Too frequent use of the cold sitz bath of pure water is apt to bring on some form of rheumatism, except in the young and healthy. My sister got rheumatic gout with using it too frequently, and subsequently fell a victim to it.

In the very cold weather it is good for the weakly to chill the water to about 60°. With these precautions the sponge bath with sea salt may be used with benefit by all except those suffering from heart affection. It will prolong life and give health and tone to the system, and to those who are unable to take enough out-door exercise it will supply a stimulus of almost equal efficiency. I am, Sirs, yours truly,

Aug. 4th, 1891. J. E. S.

TELEPHONIC CHURCH SERVICE AND THE SICK.

THE sick in their beds in Birmingham are said to be using the telephone for the purpose of enjoying church services, and its application to hospital patients is being considered. We shall watch this adaptation of a wonderful instrument. We would put our preachers on their guard against making the hearing of church services too cheap and easy. It may hinder that public attendance which is so comely. For the sick, indeed, such provision can scarcely be objected to, if care is taken to ensure easy disconnexion. But for the healthy the luxury is too great.

Mr. Leonard Raby.—The rule varies in different places. Our correspondent should ascertain the practice of the town from his partner, and act upon it.

A CORRECTION.

To the Editors of THE LANCET.

SIRS,—In your report of the proceedings of the Public Medicine Section, at the annual meeting of the British Medical Association, the remarks of myself and of another speaker on the subjects of Influenza, London Manure, and Diphtheria have by some unlucky mischance got mixed up together in a manner that must have mystified your readers. The words, "The lines of the routes . . . cause of the disease," on p. 254 of your number of Aug. 1st, 1891, should be expunged. I shall be obliged if you can find space for this correction.

I am, Sirs, yours obediently,

H. FRANKLIN PARSONS, M.D.

⁂ Dr. Parsons will see that the error, which was overlooked in the hurry of going to press, has been corrected in our present issue.—ED. L.

ARNICA.

F. G.—The Matterhorn, and, indeed, the whole Monte Rosa group, is well known to abound in the arnica flower, the virtues of which in sprains, bruises, and suchlike accidents common in Alpine regions, have long been familiar to the mountain population. The practice among those simple folk has been to gather the yellow daisies at midsummer, dry them in the shade, and put them in a bottle just big enough to hold them, with the addition of spirit more or less rectified. Closely corked, the bottle is thus left for a year, after which the liquid contents, duly strained, are fit for use.

Paterfamilias.—The examinations of the various bodies in London begin so soon after the middle of July that the work of the schools cannot be carried on later.

DR. HENRY STEVENS'S TESTIMONIAL FUND.

THE following subscriptions are acknowledged:—

Dr. Chapnell	£5	5	0	Dr. Sinclair	£1	1	0
Sir John Lubbock	5	0	0	Mr. T. Price	1	1	0
Sir John Simon	3	3	0	Dr. Badcock	1	1	0
Dr. J. B. Buist	3	3	0	Mr. M. S. Dalgleish	1	1	0
Dr. W. B. Tate	2	2	0	Mr. H. S. Taylor	1	1	0
Mr. J. Madden Stone	2	2	0	Mr. J. Manning	1	1	0
Dr. G. Buchanan	2	2	0	Dr. Nicholas	1	1	0
Mr. E. Bloomfield	2	2	0	Dr. T. M. Johnson	1	1	0
Dr. G. F. Blandford	2	2	0	Mr. O. Lowsley	1	1	0
Mr. John Bark	2	2	0	Mr. J. R. Clouting	1	1	0
Mr. John Taylor	2	2	0	Dr. Parrott	1	1	0
Dr. Maudesley	2	2	0	Mr. William Bishop	1	1	0
Dr. W. C. Skinner	2	2	0	Dr. Fisher	1	1	0
Dr. J. W. Kay	2	2	0	Mr. William Fear	1	1	0
Mr. C. C. Claremont	2	2	0	Dr. N. E. Roberts	1	1	0
Dr. J. Adams	1	1	0	Mr. A. C. Turner	0	10	6
Dr. J. Bloomfield	1	1	0	Mr. J. Swindale	0	10	6
Mr. E. L. Webb	1	1	0	Mr. George Fisher	0	10	6
Mr. H. F. Harrison	1	1	0	Mr. R. Fitzmaurice	0	10	6
Dr. C. F. Aveling	1	1	0	Mr. W. E. Baylie	0	10	6
Dr. Lionel Beale	1	1	0	Mr. R. Maples	0	10	6
Mr. A. H. King	1	1	0	Mr. G. Harday	0	10	6
Mr. J. A. Angus	1	1	0	Mr. W. Rowland	0	10	6
Dr. White	1	1	0	Mr. H. Stear	0	10	0
Dr. Bloxall	1	1	0	Mr. H. Harlock	0	5	0
Mr. Charles Frost	1	1	0	Mr. H. E. George	0	5	0
Mr. J. C. Kent	1	1	0	Mr. J. C. Procter	0	5	0
Mr. J. H. Hayward	1	1	0				

L. B. CLAREMONT, Secretary.

F.S.G.—We do not consider the fees or the rate of charge excessive. We approve of the offer made. It is desirable in medical accounts to make the charge for medicines light—little more than will cover their cost and that of dispensing. This is in accordance with the Medical Act, and with the general view that the physician is much more than his medicines.

HYPODERMIC SYRINGES.

To the Editors of THE LANCET.

SIRS,—The member of our staff who had charge of the manufacture of the simple aseptic hypodermic syringe has been absent from London, hence the delay in replying to the letter of Messrs. Arnold and Sons, recorded in your impression of July 27th. Messrs. Arnold and Sons state that we have infringed the patent rights of Messrs. Scholler for the asbestos plunger, forming part of a syringe issued by us. As a matter of fact, Messrs. Scholler, like Messrs. Arnold and Sons themselves, are paid a royalty by us through our syringe maker. The fact that asbestos as a packing was patented by Messrs. Scholler has always been well known to us, and we have paid them royalty from the first. The principle of tightening the plunger of syringes by means of a screw, said to have been anticipated by Messrs. Arnold and Sons in the year 1868, appears to have been in common use for a long time by syringe makers, and is not covered by any existing patent. As regards the fitting of a hypodermic needle either directly on to or into the glass barrel without any metallic collar intervening, we would say that Dr. Koch's hypodermic syringe includes this principle, and has been for some time on the market as the common property of syringe makers without opposition. Under these circumstances, it did not occur to us that the fitting of a needle directly on to the glass barrel could be an infringement of any patent. Messrs. Windler's catalogue, published about two years previously to Messrs. Arnold and Sons' application for the patent, contains an illustration of Koch's syringe, embodying the features now claimed by Messrs. Arnold and Sons, and this catalogue was shown to Messrs. Arnold and Sons by our representative before they wrote the letter of the 27th. We never intentionally trespass upon either the legal or moral rights of others, and have preferred to pay Messrs. Arnold and Sons a royalty on a doubtful claim rather than appear to do them injury.

We are, Sirs, yours very respectfully,

London, Aug. 5th, 1891. BURROUGHS, WELLCOME, AND CO.

"THE UNHEALTHIEST TOWN IN EUROPE."

THE British Consul at Brest in his last report says that ever since the old war, when the English prisoners died there in large numbers, Morlaix has been known as an unhealthy place. Recent information, however, discloses a most startling state of things, and even the local papers pronounce the town to be the "unhealthiest in Europe." From Jan. 1st to Nov. 29th, 1890, there were 616 deaths and only 396 births, the excess of deaths over births being 220 in less than eleven months. The population is kept up merely by the fact that a certain number of country people settle in the town every year. Were it not for this immigration the population of Morlaix would be extinct in less than two centuries.

Mr. D. Nowrojee, though not registered in England, has an important English qualification, and, we presume, a complete Indian one. We do not know the exact nature or value of the latter. Not being registered, our correspondent cannot be said to be entitled to practise or sign certificates. But he is in a very different position from an entirely unqualified assistant.

Dr. A. Carpenter (Croydon).—The letter of our correspondent shall receive attention next week.

DEATH-RATE IN THE PROFESSION IN RUSSIA.

FROM an article by Dr. Grebenshchikoff in a Russian hygienic journal it would appear that the death-rate of Russian medical men is less than that of doctors in other countries, being, if the official sources of information are to be trusted, only 211 out of 12,212, or 17·4 per 1000 annually. The only explanation for this difference that can be suggested is that the number of medical men under forty years of age is proportionately greater than in other countries. The cause of death is put down as "infectious disease" in about 15 per cent., and as phthisis in about another 15 per cent. of the total.

Barrington has not enclosed his card.

THE INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

To the Editors of THE LANCET.

SIRS,—We are much indebted to Mr. Gay for directing attention to the fact that he (and possibly others) have received no acknowledgment other than a receipt and insertion in our list of donors) of generous support given to the Congress at a time when it was greatly needed. This omission we shall do our best to rectify.

Mr. Gay's £1 1s. was given as a donation "towards the fund for organising" the Congress; and such sums we have regarded as free gifts to enable us to sustain the national character for hospitality and to receive our guests in a suitable manner. The members' subscription, on the other hand, is a sum paid for purchasing the results of our organisation, and in return for it members will, we trust, receive more than full value in the shape of volumes of Transactions and other books, badges, programmes, the use of meeting rooms, with attendance, &c. The expenses of organising a large Congress are necessarily very heavy, and we trust the British members of the Congress who have not as yet made any subscription to the organising fund will reconsider the matter, and enable the organising committee to easily discharge its liabilities. For some months we have clearly stated in all our documents that members are required to pay £1 sterling, "in addition to any sum which they may have contributed towards the Congress fund." If Mr. Gay's donation was given under a misapprehension, we shall be happy to transfer his name from the list of donors to that of members.

We are, Sirs, yours obediently,

W. R. CORNISH, Chairman of Finance Committee.
G. V. POORE, Hon. Sec. of General Committee.

20, Hanover-square, Aug. 5th, 1891.

ERRATA.—In Dr. Zangger's short paper, published last week, "Results of Treatment of Reducible Hernia by Alcoholic Injections," p. 230, some of the statistics require correction. The sentence commencing on the eleventh line of the article should read thus:—"In 293 cases there were 83·62 per cent. cures, 6·48 per cent. improvements, and 9·9 per cent. of negative results."

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Alderson, London; Mr. Armstrong, Newcastle-on-Tyne; Mr. Anderson, South Wales; Messrs. Arnold and Son, London; Mr. Agnew, San Francisco; Mr. W. Anderson, London; Dr. H. C. Bastian; Dr. Lauder Brunton, London; Messrs. Byles and Son, Bradford; Messrs. Bishop and Sons, London; Mr. Buchanan, Glasgow; Messrs. Burroughs and Wellcome; Mr. Battensby, Rotherham; Mr. C. Campbell, Saddleworth; Mr. Claremont, London; Mr. Cornish, London; Dr. Cranston Charles, London; Mr. Compston, Crawshawbrook; Mr. Hall Caine, Keswick; Mr. F. E. Cane, London; Mons. A. G. Carlier, Norwich; Dr. A. Carpenter, Croydon; Miss Dove, Spalding; Messrs. W. Dawson and Son, London; Dr. Langdon Down; M. Doin, Paris; Mr. Doman, Lymington; Messrs. Deacon and Co., London; Messrs. Eason and Son, Dublin; Messrs. Evans, Sons, and Co., Liverpool; Dr. Colcott Fox, London; Mr. Farbstien, Hull; Mr. G. Foy, Dublin; Dr. Feany, Liverpool; Mr. Fernandez; Mr. Faulkner, Manningtree; Mr. Grant, Worthing; Mr. E. Grün, London; Dr. M. Granville, London; Dr. G. Harley, London; Mr. Hornibrook, London; Mr. Hill-Harland, Sheffield; Mr. Hyde, Buxton; Mr. Hannaford, Worthing; Dr. W. A. Jamieson, Edinburgh; Mr. E. D. Jump, Folkestone; Messrs. Knight and Co., London; Mr. King, Leeds; Mrs. Kirwan, Walworth; Surgeon-Major Lawrie, Hyderabad; Mr. Laurenson, Shetland; Mr. Lindsay, Glasgow; Mrs. Lyon, London; Dr. Lilley, Portland; Surgeon-Major Murray, Calcutta; Dr. J. B. Macleod, Dundee; Messrs. G. Mason and Co., London; Dr. Mapother, London; Mr. J. J. Myers, Liverpool; Mr. R. Macnaughton; Mr. Nowrojee, London; Dr. E. A. Opie, Worthing; Mr. Oliver, Lincoln; Dr. Poore, London; Mr. Phillips, Smethwick; Mr. Pratt, Somerset; Dr. Parsons, London; Mr. Ross, Zurriff; Mr. Russell, Liverpool; Mr. Rogers, London; Dr. Rentoul, Liverpool; Mr. Robinson Sheffield; Mr. Russell, New York; Mr. A. E. Reade, London; Mr. Singer, Vienna; Mr. Shepherd; Dr. Stephenson, Aberdeen; Mr. Stenhouse, Glasgow; Mr. Seymour, Coventry; Mr. H. Snow, London; Mr. Simpson, Bristol; Dr. F. A. A. Smith; Messrs. Stern and Co., London; Mr. Stedman, London; Dr. Sheppard, Putney; Dr. Thorowgood, London; Mr. Tyte, Minchinhampton; Messrs. Tayler and Co., London; Dr. Wilks, London; Dr. R. T. Williamson, Manchester; Mr. Wills, London; Mr. Wand, Leicester; Dr. Waugh, Midsomer Norton; Dr. Zangger, St. Moritz; M.D.Oxon.; R.; *Midland Counties Herald*, Birmingham; Royal Infirmary, Manchester; Surgeon, R.N.; Paterfamilias; M.R.C.S.; Ubique; C. M. L., London; Provincial F.R.C.S.; M.B., Nothallerton; A. C. H., London; Anderson's

College, Glasgow; Senex, London; D., London; Invalid, Southend-on-Sea; Medicus, Stranraer, Confidence, Norwich; S. H., Lowestoft; F. F., London; Cannula, London.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Clowes, Colchester; Messrs. Dromgoole, St. Helens; Messrs. Robbins and Co., London; Dr. Sellers, Preston; Dr. Cook, Bognor; Messrs. Bryce and Rumpff, London; Mr. Brewer, Ulverston; Mr. Hill, Virginia Water; Mr. Sers, Peckham; Mr. Tully, Hastings; Messrs. Keene and Ashwell, London; Mr. George, Preston, Sussex; Messrs. Oliver and Boyd, Edinburgh; Mr. Eastwood, Huddersfield; Mr. Jones, Old Kent-road; Mr. Butlin, London; Mr. Lambert, Hull; Messrs. Hooper and Co., London; Mr. Shattock, Richmond; Messrs. Wright and Co., Birmingham; Mr. Taylor, Nottingham; Messrs. Farrant and Co., Exeter; Mr. Lane, Bath; Mr. Cooper, Bristol; Mr. Semple, Bury St. Edmunds; Dr. Harris, Birchington-on-Sea; Mr. Nichols, Bury St. Edmunds; Mrs. Cash, Burton-on-Trent; Mr. R. Pogmore, Ashby-de-la-Zouche; Dr. Raley, Devizes; M. Berthier, Paris; Mr. Hughes, Pwllheli; Mr. Hayrock, Welwyn; Mrs. Reed, Worthing; Mr. Wilson, Pontypool; Mr. Barbour, London; Mr. Hughes, Handsworth; Mr. C. Hemming, Bridgend; Mr. Gray, co. Armagh; Mr. Cresswell, Egypt; Mr. Freke, Tunbridge; Mr. Crawford, Worthing; Mr. Astley, Portobello; Dr. Martin, Walkden; Mr. Read, Canterbury; Mr. Howse, London; Dr. Jones, Aberkenfig; Mr. Pead, Dulwich; Mr. Grosvenor, Worthing; Dr. Playter, Ottawa; Mr. Bate, Chatham; Mr. Jackson, St. Helens; Mrs. Bale, St. Leonards-on-Sea; Messrs. Reade and Co., Wolverhampton; Mr. Heywood, Manchester; Messrs. Savory and Moore, London; Mr. Atterbury, London; Dr. Lansdale, Newington; Mr. Berry, London; Mr. Jackson, Bradford; Dr. Rutherford, Dumfries; Mr. Adams, Ipswich; Miss Rogers, Cornwall; Mr. Thin, Edinburgh; Surgeon, Forest-gate; P. L. D., Carmarthen; Bouillon Fleet Co., London; Medicus, Brighton; Anglo-Swiss Condensed Milk Co., London; Ilex, London; D. H., London; Newport and County Infirmary; Veritas, London; Vigilans, Paddington; Dorset County Hospital; C. W., Cardiff; Z., London; X., London; Vaccine Lymph Association, London; Executor, Tenby; London, London; Worcester General Infirmary; J. T. W., Halifax; L., London; Great Eastern Railway Co.; Medicus, Bristol; Letter, London; Atlas Assurance Co., London; A. B., Bradford; Delta, London; Hanover Institute for Nurses, London; Physician, London; A. C. B., London; Wigan Infirmary; Scapula, London; M.B. Camb.; Geddes Manufacturing Co., London; W. H. N., Dublin; A. B. C., London; Physician, Bingham; Surgeon, Somerset; Alpha, Bristol; Dexter, London; M. R., London; Z. Y. X., Ealing; X. Y. Z., London; Ilium, London; Surgeon, London.

NEWSPAPERS.—*Leeds Mercury, Bristol Mercury, Liverpool Daily Post, Scottish Leader, City Press, Hull Daily News, Yorkshire Post, Weekly Free Press and Aberdeen Herald, Hertfordshire Mercury, Windsor and Eton Gazette, National Bulletin, Insurance Record, Local Government Chronicle, West Middlesex Standard, Mining Journal, Sunday Times, Reading Mercury, Surrey Advertiser, West Middlesex Advertiser, Broad Arrow, Law Journal, Builder, Chemist and Druggist, Windsor and Eton Express, Metropolitan, Spectator, Saturday Review, Dundee Advertiser, Pharmaceutical Journal, Guy's Hospital Gazette, Bradford Observer, Le Temps (Paris), Nottingham Daily Express, Sussex Daily News, Birmingham Daily Gazette, Western Press, Cape Times, Peterborough Express, Argus (Melbourne), Leicester Mercury, Cambridge Independent Press, Liverpool Courier, Corriere D'Italia (Rio de Janeiro), Croydon Advertiser, Essex County Chronicle, Northern Echo, Llangollen Advertiser, East Anglian Times, Shrewsbury Chronicle, Maidstone Journal, Kendal Mercury, Oxford Chronicle, Optician, Lynn Advertiser, British Chess Magazine, The Newspaper, Dunstable Borough Gazette, Hastings News, Scotsman, Colchester Gazette, Ilfracombe Observer, Warrington Guardian, Scarborough Gazette, Bognor Observer, Architect, Newsman, Schoolmaster, &c.*, have been received.

Medical Diary for the ensuing Week.

Monday, August 10.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

Tuesday, August 11.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.
GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic operations, 4 P.M.; Friday, 2 P.M
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

Wednesday, August 12.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
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Thursday, August 13.

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UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

Friday, August 14.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

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